

Public Utilities

Volume 59 No. 1



January 3, 1957

THE OUTLOOK FOR PUBLIC UTILITIES—1957

By Francis X. Welch

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Dividend Policy and Reduction of Tax Liability

By Fred P. Morrissey

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Advance Planning for Utilities Pays Off

By Thomas E. J. Keena

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Investment Bankers Look at Utility Problems

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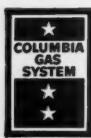
INDEX to Volume 58 Included in This Issue



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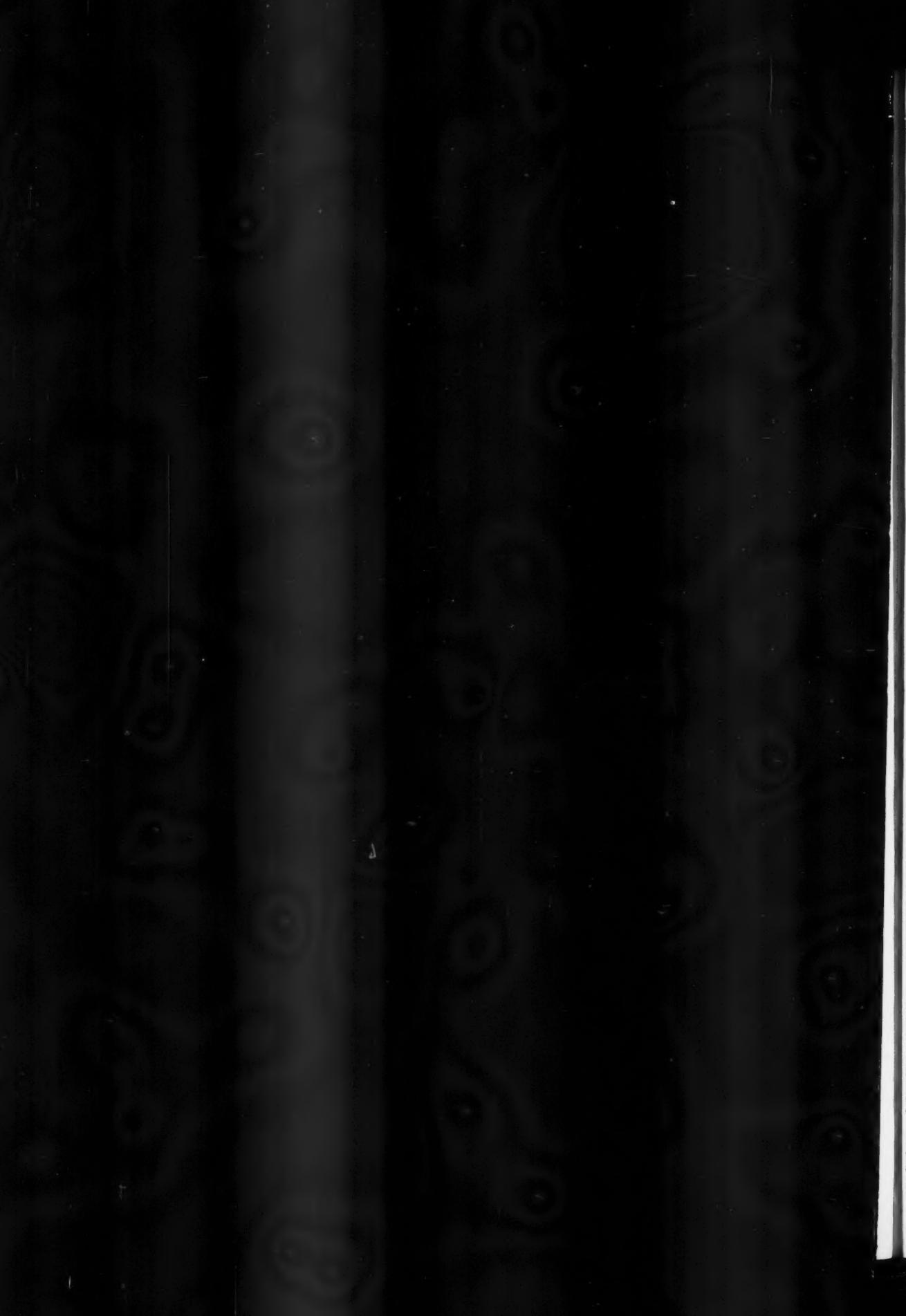
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Public Utilities

FORTNIGHTLY

VOLUME 59

JANUARY 3, 1957

NUMBER 1



ARTICLES

The Outlook for Public Utilities—1957 *Francis X. Welch* 1

A "forecast" article at the beginning of each year gives us some new predictions for the year 1957.

Dividend Policy and Reduction of Tax Liability *Fred P. Morrissey* 15

Changes which would enable shareholders to minimize their tax liability, might result in assisting the issuing utility company to raise necessary new capital.

Advance Planning for Utilities Pays Off *Thomas E. J. Keena* 23

Public utility companies are supposed to have a pretty good idea of what the future of a city will be, because it is their service responsibility.

FEATURE SECTIONS

Telephone and Telegraph 33

Financial News and Comment *Owen Ely* 36

What Others Think 45

Investment Bankers Look at Utility Problems 45

The March of Events 54

Progress of Regulation 57

Industrial Progress 21

• Pages with the Editors . 6 • Utilities Almanack 17

• Coming in the Next Issue 10 • Frontispiece 18

• Remarkable Remarks .. 12 • Index to Advertisers .. 34

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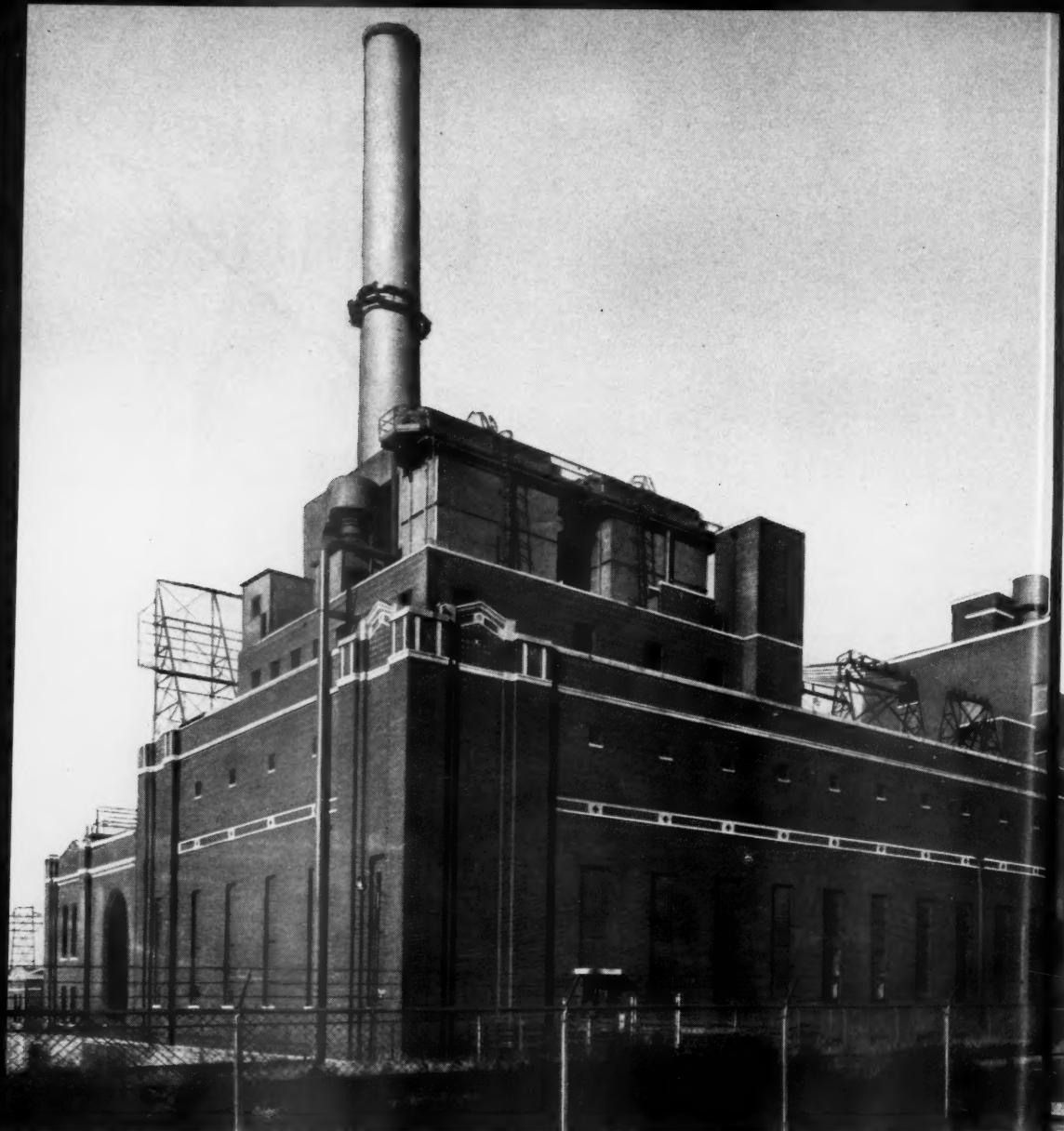
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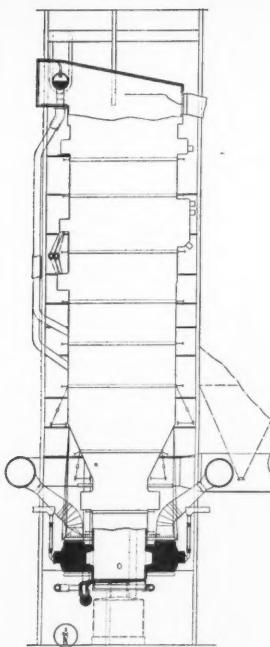
New Cyclone Furnace Unfo

**Installation at Joliet Station
to Bring Higher Efficiency
... Lower Costs to
Power Generation**

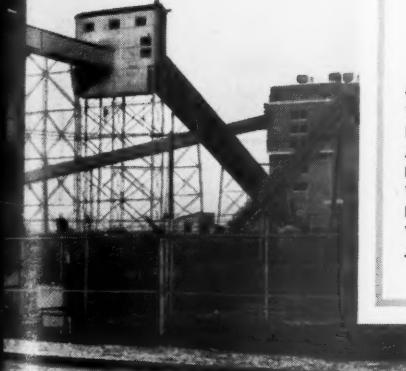
Commonwealth Edison System's newest addition to its Joliet Station, will be a B&W Radiant Rulmet Boiler with Cyclone Furnaces. This is the 16th unit of this type the system has bought since 194th. It raises total system capacity served by Cyclone units to over 1,600,000 kw.

The Cyclone

Early in the development of the Cyclone Fuel coal plants by B&W, Commonwealth Edison recognized ash handling potentialities for burning low-grade coals. The system's engineers and operators cooperated in serving B&W in the project, and, in September 194th, the Cyclone



B&W RADIANT REHEAT BOILER WITH CYCLONE FURNACES, arranged for opposed firing, for Commonwealth Edison System's Joliet Station. Unit will deliver 2,200,000 pounds of steam per hour at 2100 psi with temperature of 1055 F, reheat to 1005 F. Boiler design is 2375 psi. Sargent & Lundy, Consulting Engineers.



CYCLONE FURNACE BOILER UNITS IN COMMONWEALTH EDISON SYSTEM						
STATION	NO. OF BOILERS	NO. OF CYCLES	TOTAL CAPACITY LB/HR	DESIGN PRESSURE	STEAM TEMP. F	REHEAT TEMP. F
Calumet	1	1	150,000	600	650	—
Waukegan	1	2	300,000	650	760	—
Fisk	2	8	1,500,000	1475	935	—
Joliet	2	6	1,200,000	1525	1010	—
Ridgeland	4	16	2,920,000	2125	1050	—
Waukegan	1	4	830,000	2050	1010	1010
Ridgeland	2	12	2,200,000	2125	1050	1000
Will County	2	10	2,400,000	2125	1050	1010
Joliet	1	9	2,200,000	2375	1055	1005
	16	68	13,700,000			

In for Commonwealth Edison

ditional commercial application went on the line at Calumet Station. Historic Boiler Unit No. 20-A, the new unit at Joliet, burns highly volatile Central Illinois coal with a high ash content and low ash-fusion temperature.

The Cyclone Furnace simplifies the entire process of coal preparation, combustion, ash segregation, and ash handling and effects savings in most of the elements of power generation costs. In service or on order, 64 boilers with 220 Cyclone Furnaces throughout the country serve a

total capacity of over 6,600,000 kw. They merit examination in connection with your next installation. The Babcock & Wilcox Company, Boiler Division, 161 East 42nd Street, New York 17, N. Y.

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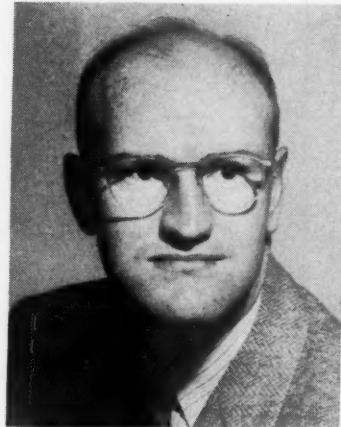


Pages with the Editors

WE were rather surprised to discover, when our editor FRANCIS X. WELCH got his notes together for his annual New Year article on the Washington outlook for public utilities, that the 85th Congress will be closer in composition to the 84th Congress than any other two Congresses within the past four and a half decades. In other words, not since 1914 when the 63rd Congress, elected to serve with Woodrow Wilson, was succeeded by the 64th Congress, which then served during the completion of Wilson's first term, has there been such a low net turnover in both chambers.

THUS, when Speaker of the House Sam Rayburn raps the gavel for the opening of the 85th Congress, there will be only forty-six new faces in the House and nine seats in the Senate with new occupants. This, as MR. WELCH tells us, is just about 10 per cent turnover as against an average during the past half-century of almost twice as much shifting around. The implication, of course, is that the new Congress, so clearly resembling the old Congress, is likely to feel nearly the same way on various legislative proposals of interest to public utilities.

OF course, it may not turn out that way



FRED P. MORRISSEY

at all. The emphasis in the 85th Congress is certainly going to be more on foreign affairs than it was in the 84th Congress, and it is entirely possible that with domestic issues shifting under the pressure of constantly changing conditions, a lot of Congressmen will change their minds or get some new ideas about some of these proposals. More important is the likelihood that the proposals themselves will be different in the new Congress, as compared with the precise form of bills introduced or considered in the last session.

ANOTHER obvious characteristic of the new Congress is the close division of political power. Nominally organized in both branches by the Democrats, it will nevertheless be pretty evenly balanced as to party control, which means that coalitions and alliances will play a more important part than ever in the legislative outlook. Our editor's analysis of the possible consequences of new developments in Congress and federal agencies respecting various utility industries during the New Year follows the pattern which he has regularly written in his annual "forecast" article at the beginning of each year. It gives us some new predictions for the year 1957, along with reasons why he thinks they will come to pass.



FRANCIS X. WELCH



This machinist is "miking" a disc for one of the largest butterfly valves ever built — 192" diameter. Newport News built 3 such valves, each weighing 446,000 lbs., for the Ross Power Plant, Skagit Project, Department of Light, City of Seattle, Washington. Designed for a water flow of 3,620 cu. ft. per sec., and a hydrostatic pressure of 290 psi., these valves were shop tested by Newport News at 450 psi. They are hydraulically operated with oil at 1,500 psi. pressure.

Birth of a **200-ton** Butterfly

This disc for a 16-foot butterfly valve reflects two basic advantages of Newport News fabrication...

First, it exemplifies the *careful attention* Newport News craftsmen give to every detail. And secondly, it attests to the *quality* with which Newport News produces in massive equipment for public utilities and allied industries...due to Newport News' high integration of skill and production facilities.

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NEWS**

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PAGES WITH THE EDITORS (*Continued*)

BEGINNING on page 15 is an article, entitled "Dividend Policy and Reduction of Tax Liability." Readers will find that it contains a provocative suggestion for the consideration of possible changes in dividend policy by public utilities which might make their securities more desirable from the standpoint of investors. Where such changes would enable shareholders to minimize their tax liability, the result might materially assist the issuing utility company to raise necessary new capital for plant expansion in competition with other demands on the money market. This discussion is presented simply as an interesting proposal of what might be done in making utility financing through securities more attractive to investors, as well as more useful in raising the necessary capital for the issuing companies. It will be understood, of course, that all changes in dividend pay-out policy must be considered cautiously and with due regard for the reputation which a given class of securities has established among the investors, and their confidence in the same.

PROFESSOR FRED P. MORRISSEY, author of this article on dividend policy and the reduction of tax liability, was born in Brantford, Canada, in 1920, and graduated from the University of Toronto with the degree of Bachelor of Commerce in 1943. After three years in the Canadian Army as a statistician, he returned to Toronto for graduate work, was awarded the Master's degree, and lectured there for a year before going to Columbia University to work for a PhD degree in economics, which he obtained in 1951. Since 1949 DR. MORRISSEY has been on the staff of the school of business administration of the University of California in Berkeley. His fields of interest and teaching are finance, public utilities, and business economics. He has contributed to several journals, including *Land Economics*.

* * * *

EVERY so often the city editor of a metropolitan daily newspaper is likely to decide that the time is ripe for a special article on what the city is going to look like one, five, or ten, or some other unspecified number of years in the future.



THOMAS E. J. KEENA

Whenever this assignment comes up, invariably the suggestion is made that the reporter start out with the public utility companies. They are supposed to have a pretty good idea, because it is their service responsibility, as well as good business, to be forehanded, not only on trends and directions of population shifts, but also the likely changes in the character of various areas and neighborhoods. But do the public utility companies actually plan ahead as they should? If so, how do they do it? How is the master plan and the subordinate planning and the co-ordinated plan, and the continuity organized? THOMAS E. J. KEENA of the editorial staff of *The Hartford Courant* became intrigued with this specialized phase of public utility operations and has made his own investigation of who, how, and why public utility companies plan ahead, in his article beginning on page 23.

MR. KEENA is a native of Hartford and a graduate of Yale (BA, '41) who began reportorial work on the staff of *The Hartford Courant* even while still in school. After World War II service with antiaircraft troops in Sicily and other European countries, he returned to the *Courant* on general assignment in 1945. He took time out in 1949 for special studies at Sorbonne and Oxford.

THE next number of this magazine will be out January 17th.

The Editors



White Elephants That Stalk Utility Offices

These white elephants are made of paper! They're that
kind of ever accumulating records that bulk up files, eat
up space and gobble up big hunks of profit! Are you
feeding them in your office? Most utilities are!

If you have any doubt about these beasts being in your
office — try these three simple tests:

Test #1 — Do you have an organized policy covering
the systematic retention, transfer or destruction of all papers
and documents? If not, you must be feeding a white
elephant! Tremendous savings are possible. Assuming you
have 50 files, annual savings of \$3850* will result from
destroying 35% of the records to be destroyed . . . 100 files double
the amount, and so on. And savings from "destruction"
are only a drop in the bucket!

Test #2 — How long does it take to find or file a paper
record in your organization? It should not take longer than 1
minute. If it does, your company probably needs a Records
Analysis.

Test #3 — When you ask for a file by *subject* instead
of by name do you get all the records pertaining to that
subject — and are they in order for best use? A subject file
is the backbone of a record-keeping operation — the source
of vital facts for management decisions.

Why not get the latest information on actual dollar
savings possible through records management methods.
Many utility companies are already utilizing this service.
Send for X1200A—"A Basic Plan For Records Retention."

Write Room 1154, 315 Fourth Avenue, New York 10.

***Ask for BSD32—"Get These Annual Dollar Savings From Your Files."**

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Coming IN THE NEXT ISSUE

(January 17, 1957, issue)

xx

POSTWAR FREIGHT RATE INCREASES AND THE RAILROADS

This is a very timely discussion of the pros and cons involved in railroad freight rate increases and their impact on the financial position of the American railroads. It is not generally realized that these freight rate increases have an effect not only upon the railway carriers themselves but upon public utility companies which are heavy users of the rail freight services. For example, electric utility companies have become the number one customer of the coal industry and in that capacity have on some occasions had to contest or at least consider contesting proposed coal freight rate increases by railroads. Then there is the difficulty of applying the cost-of-capital theory to railway earnings in view of the relation of the cost of equity capital to prospective earnings. Professor Robert W. Harbeson of the University of Illinois has made an objective analysis of the economic features which must be considered in the current freight rate increase applications before the Interstate Commerce Commission. He finds that the cost-of-capital theory, upon which the railroads rely to justify the rate of return which they claim to be essential, is open to question. He also raises the query whether, under present conditions, it would be more desirable from both the railroad and shippers' standpoints to explore more fully the possibilities of improving the carriers' financial position by measures other than general rate increases.

IT'S NEW AND NEEDED—THE TELEPHONIC FIRE ALARM

Readers will find this an especially interesting article on the use of the telephone for reporting emergencies. It is the product of James H. Collins, business author and editor, now resident in Washington, D. C. Just lately the first American city replaced its old telegraphic fire-alarm boxes with a telephonic system, leased from the telephone company—with many advantages. But for years citizens had been using the private phone for fire and other emergency calls. This system puts the phone out in the street—and is a new kind of service to sell. It is not generally realized that regardless of the type of alarm used for reporting fire, police, and other emergencies, from street corner boxes, the great bulk of emergency calls in recent years have come over the telephone wires from cities using conventional telephone service.

ACCOUNTANTS AS REGULATORY COMMISSIONERS

Dr. Lincoln Smith, assistant professor of political science at New York University, has analyzed another special aspect of public service commission regulation in practice. The author's discussion of qualifications for a public service commissioner underlines the varied type of demands made on the state commissions. They are expected at various times to perform the services of lawyers, accountants, writers, and occasionally engineers. Of course, a member of any of these professions, if he were also a member of a state public service commission, would sooner or later acquire considerable knowledge and competence of the over-all problems involved in regulation. They would also find reasons to give reins to natural tendencies extending from their individual professional background.



Also . . . Special financial news, digests, and interpretations of court and commission decisions, general news happenings, reviews, Washington gossip, and other features of interest to public utility regulators, companies, executives, financial experts, employees, investors, and others.



Good in its day...

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The Analyzer method saves time and definitely cuts costs. Even if you use your most experienced personnel and office calculating machines we can save you up to 50% with the Analyzer method. Besides, all the work is done in our office!

Send us a sample of your billing sheet, a copy of rate schedules and an estimate of number of customers billed on each rate and your frequency table requirements. We'll give you an estimate of costs *without charge*. Then compare our costs with your own!

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Remarkable Remarks

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EDITORIAL STATEMENT
Daily News, Palatka, Florida.

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Editor, *The Wall Street Journal.*

"The advocates of public power are all too ready to disregard the drain on the public pocketbook through taxes."

"Learning is never a matter of mere indoctrination. It is a matter of individual assimilation. It is something the individual has to do for himself."

"[The present progression of personal income tax rates is] the greatest potential that anyone has ever thought of for making out of us a nation of liars and cheats."

"Leadership that distributes leadership is, in the context of a democratic ethics, the strongest and most fertile of all. Shared leadership permits each member to invest his special experiences, interests, and abilities in the welfare of the group."

"Every new wage agreement that is signed in any major industry becomes the floor upon which the next union pyramids its demands for a still higher wage. And we have learned that rising steel prices do not cause inflation—they are the result of inflation."

"If we are to keep our prosperity and continue evenly our dynamic growth without inflation and without 'boom or bust,' we must, as a nation, follow policies directed toward two objectives: (1) to restrain or postpone some of the less essential uses of money; (2) to encourage saving. These policies are the joint responsibility of the government, of business, and banking."

"'No man is an island, of itself entirely,' wrote John Donne. And no businessman is an island either. In addition to the three traditional dimensions, he operates in a fourth dimension of human relationships. He is caught up in a skein of human relationships with his employees, his customers, his community neighbors, his stockholders, government officials—and fellow businessmen."

"If the capitalistic system in the United States is in danger today, it is not the danger from a frontal attack. It is the danger that it will be loaded with so many forms of government intervention that it will no longer be able to perform its function; the destruction will not take place if people realize that the purpose is destruction. But it can come about piecemeal, and with the consent of people who would be horrified if they realized what was afoot."



From a central power control point in Birmingham, Ala., Southern Services supervises the output of 25 generating plants like this one at Jordan Dam. Bell System teletypewriters speed the orders calculated on the "Early Bird" computer (inset).

How Bell System teletypewriter works with Southern's computer

ated at the "Early Bird" com-
in Birmingham, Ala., head-
ers of Southern Services, Inc.,
power co-ordinator transmits
rating orders for 25 plants—by
System teletypewriter.
is close supervision contrib-
to more economical power
to consumers in Alabama,

Georgia, Mississippi, Florida. Power
output, cost of power and transmis-
sion losses are figured continuously
by the analogue computer. When
load adjustments are necessary,
Southern's co-ordinator sends the
orders by private line teletypewriter.

Bell System service gives South-
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ability. And teletypewriter com-
munications provide a day-to-day
record of orders transmitted.

* * * * *

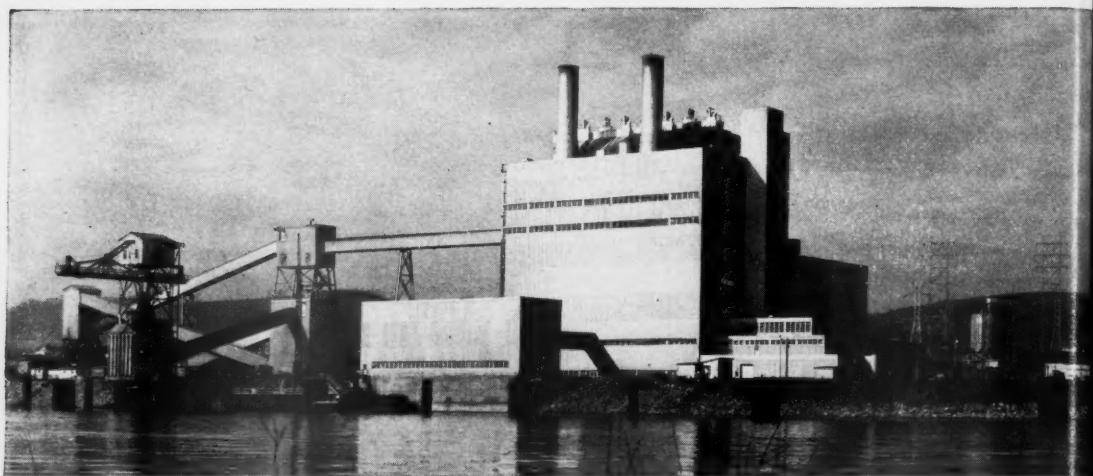
*Bell System private line service can
make communications faster and
more efficient for you. Call your
Bell Telephone representative. He
will be glad to study your needs.*



BELL TELEPHONE SYSTEM

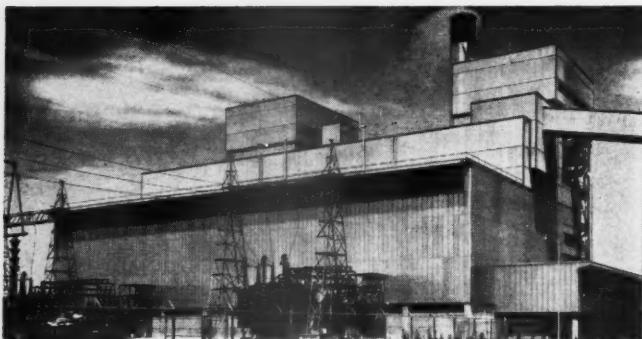
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NELS FOR: DATA TRANSMISSION • TELEMETRY • REMOTE CONTROL • TELEPHOTOGRAPH • CLOSED CIRCUIT TV

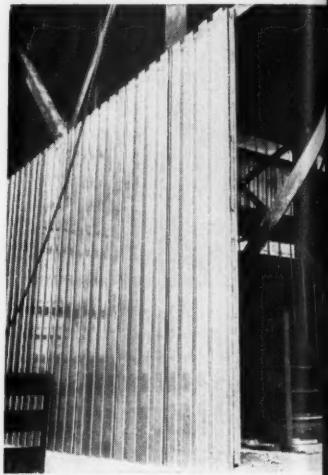


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Q-Panel walls grace the new Elrama Plant (above) near Pittsburgh. It was built by Duquesne Light Company's Engineering and Construction Department. The Corporation was General Contractor.



Q-Panel walls (above) go up quickly in any weather because they are dry hung in place, not piled up.

More than 32,000 sq. ft. of Q-Panels were used to enclose the impressive Hawthorne Electric Station (left) of the Kansas City, Missouri, Power and Light Company. Ebasco Services, Inc., designed and built the plant.

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H. H. Robertson Company

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*Aeschylus 540 B. C.



Ferdinand de Lesseps:

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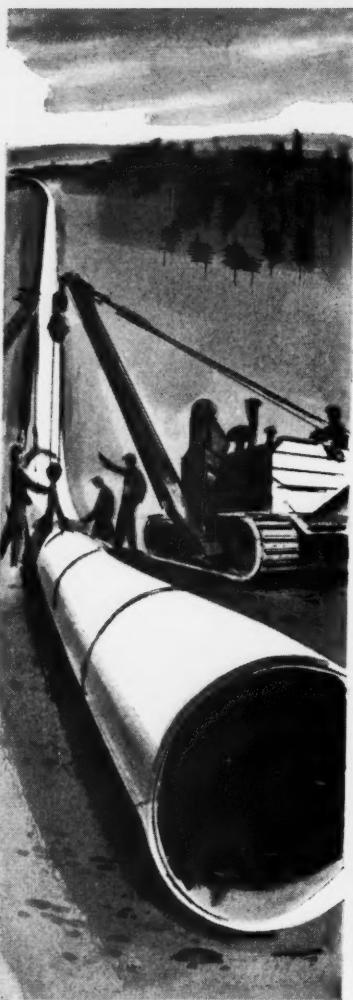
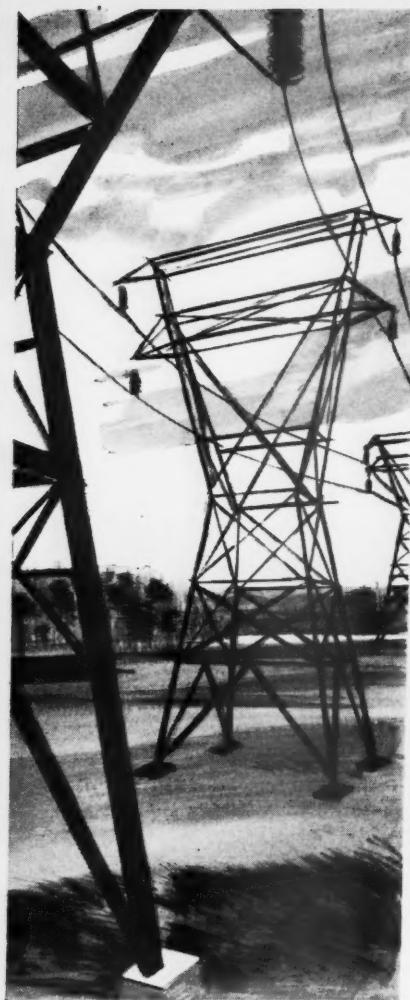
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4101 San Jacinto, Houston 4, Texas; 1010 Euclid Avenue, Cleveland 17, Ohio;
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Founded 1854





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A·l·m·a·n·a·c·k

JANUARY

Thursday—3 <i>American Institute of Electrical Engineers will hold winter general meeting, New York, N. Y. Jan. 21-25. Advance notice.</i>	Friday—4 <i>New England Gas Association, Operating Division, will hold meeting, Boston, Mass. Jan. 23. Advance notice.</i>	Saturday—5 <i>Pennsylvania Gas Association will hold midwinter sales conference, Philadelphia, Pa. Jan. 25. Advance notice.</i>	Sunday—6 <i>Southern Gas Association will hold accident prevention round-table conference, Birmingham, Ala. Jan. 25. Advance notice.</i>
Monday—7 <i>Highway Research Board begins meeting, Washington, D. C.</i>	Tuesday—8 <i>Industrial Heating Equipment Association will hold meeting, Washington, D. C. Jan. 28, 29. Advance notice.</i>	Wednesday—9 <i>American Water Works Association, New York Section, will hold midwinter luncheon, New York, N. Y. Jan. 29. Advance notice.</i>	Thursday—10 <i>Northeastern Weed Control Conference begins, New York, N. Y.</i>
Friday—11 <i>Missouri Valley Electric Association will hold industrial and commercial sales conference, Kansas City, Mo. Jan. 31-Feb. 1. Advance notice.</i>	Saturday—12 <i>National Association of Purchasing Agents, Public Utility Buyers' Group, will hold annual midwinter conference, Louisville, Ky. Feb. 3-5. Advance notice.</i>	Sunday—13 <i>American Gas Association will hold home service workshop, Toronto, Ontario, Canada. Feb. 4-6. Advance notice.</i>	Monday—14 <i>Doble Engineering Company begins annual conference of clients, Boston, Mass.</i>
Tuesday—15 <i>American Institute of Electrical Engineers ends two-day national symposium on economics, Washington, D. C.</i>	Wednesday—16 <i>Western Winter Radio-Television and Appliance Market will hold western merchandise mart, San Francisco, Cal.</i>	Thursday—17 <i>Canadian Association of Radio and Television Broadcasters begins TV clinic, Toronto, Ontario, Canada.</i>	Friday—18 <i>Southern Gas Association begins employee relations round-table conference, Dallas, Tex.</i>



Courtesy, Texas Eastern Transmission Corporation

Boosting Winter's Gas Supply

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Public Utilities

FORTNIGHTLY

VOL. 59, No. 1



JANUARY 3, 1957

The Outlook for Public Utilities—1957

With the New Year will come the convocation of a new Congress, the 85th in the history of our Republic. Nominally organized in both branches by the Democrats, it will nevertheless be pretty evenly balanced on political control, which means that coalitions and alliances will play a more important part than ever in the legislative outlook. Here is an analysis of the possible consequences of new developments in Congress and federal agencies respecting various utility industries during 1957.

By FRANCIS X. WELCH*

THIS would seem to be a particularly inappropriate time for making predictions affecting a particular group of industries from the Washington standpoint for the year to come—1957. It would seem inappropriate because of the overriding importance of so many critical considerations which are entirely inde-

pendent of public utility operations, but which are bound to control the outlook for the coming year. The reference is, of course, to the troubled international situation.

As these lines are written, local warfare in the Middle East and suppression of revolt in the satellite countries prod the major powers closer and closer to the brink

*Editor, PUBLIC UTILITIES FORTNIGHTLY.

PUBLIC UTILITIES FORTNIGHTLY

of cosmic conflagration. The delicate balance between the East and West, which has served to preserve a troubled peace since the Korean armistice, teeters and totters. And it would seem to be a brave prophet indeed who would venture, on the eve of what may be Armageddon itself, to talk about what may happen in such matters as local rate cases, regulatory statute revision, and other matters of direct and immediate concern to public utility industries.

But the world must move. And all the little wheels within the larger wheels must continue their appointed rounds, at least until some greater authority intervenes to shake up the whole setup. So, on the presumption that the American business economy will continue on an over-all peacetime basis, if not exactly "as usual," the following attempt is made to see what is ahead in the public utility picture for 1957—as viewed from a Washington vantage point.

These forecasts are made, of course, without any claim to mystical powers of clairvoyance. They are simply based on routine, down-to-earth premises of facts and trends already known to be in existence. From these known facts and trends this author has attempted to project some admitted speculation weighted by judgment calculations. The results, as in the past and previous years (see page 3 for 1956 results), will be hit or miss, but for what they are worth here we go again for the year 1957.

The New Congress

JUST by way of getting our background setting lined up in Washington, let us take a look at the 85th Congress, elected

last November. The turnover in the 85th Congress, as compared with the 84th Congress, is something in the order of one-tenth of the total membership (including defeats, retirements, and deceased membership). Only forty-six (out of 435) new House members and only nine (out of 96) new Senators will take seats in the new Congress.

Not since 1912 has there been such a small turnover, with the result that the two succeeding Congresses resemble one another very much indeed. The ratio of party alignment, for example, is exactly the same in the Senate (forty-nine Democrats and forty-seven Republicans—subject to last-minute unusual developments, such as the puzzling situation in Texas). It is almost the same in the House where the Democrats made a net gain of one seat and the Republicans two seats (233-201) due to unfilled vacancies at the time of election.

More than that, the same conditions will probably prevail as between Republican and Democratic leadership. This is another way of saying that the actual control in Congress will probably be in the hands of the same coalition of southern Democrats and Republicans which has prevailed for almost four consecutive sessions of Congress. Whatever is done in the way of major or controversial legislation will be done through that coalition.

The reason is simple enough. The same people will be doing business at the same old stands, with minor exceptions, both in committees and on the floor of both chambers. Southern Democrats will be chairmen of eight out of 15 standing committees in the Senate and 12 out of 19 in the House.

THE OUTLOOK FOR PUBLIC UTILITIES—1957

RESULTS OF 1956 PROPHETY

Slightly less than eight out of ten predictions by Mr. Welch one year ago occurred as forecast.

Forecast

1. Public power a campaign issue. It was predicted that Dixon-Yates, the alleged "give-away" administration policy on gas and oil, along with alleged high utility rates and preference for big business generally, would get into the campaign.

2. The gas producer bill. It was predicted that the Harris-Fulbright Bill would not be enacted unless promptly passed by Congress.

3. FPC producer regulation. Grave difficulties for the FPC, complicated by court litigation and clogged dockets, were foreseen.

4. TVA agitation. A renewal of agitation to finance expansion of TVA power plants but no final decision or new legislation was forecast.

5. No highway relocation legislation. The failure of both a federal highway bill and utility relocation expense was foreseen.

6. Difficulties for the FCC. Continued controversies and congressional investigations, including controversial toll TV, were foreseen.

7. No new projects. Defeat or delay seen for Upper Colorado, Hell's Canyon, John Day, and Niagara. REA and Interior-Reclamation appropriations about the same.

8. FPC hydro licenses. It was foreseen that the Hell's Canyon license would be upheld by the court and that the government power bloc would shift its fire to Mountain Sheep and Pleasant Valley projects.

9. Rate case activity. The big New York Telephone Company rate case was seen as the most important of numerous rate cases re-appraising regulatory principles, under inflationary conditions.

10. Income tax reduction. Lower personal income tax reduction and extension of corporate and excise taxes were foreseen. Personal cut estimated at \$1-2 billion.

Result

R I G H T

Apparently with no effect at the national level.

R I G H T

It was passed by Congress but vetoed.

R I G H T

Court reversals, plus continued uncertainty, still bogs down FPC regulation.

R I G H T

Congress must still solve power expansion financing in the TVA area.

W R O N G

The bill was passed, including a relocation expense provision.

R I G H T

Telephone companies did all right on frequencies—also forecast.

P A R T I A L

Four-fifths right. Upper Colorado did get through—all the rest as predicted.

R I G H T

In every detail.

R I G H T

The New York decision by the highest state court reversed the original cost tradition.

W R O N G

There was no tax cut for anybody.

PUBLIC UTILITIES FORTNIGHTLY

HERE are House of Representatives committees which handle legislation of special interest to public utilities. The following is a run-down on their Democratic chairmen: Agriculture (REA) will continue under the chairmanship of Representative Cooley (North Carolina). Appropriations will again be headed by Representative Cannon (Missouri). Education and Labor continues under Representative Barden (North Carolina). Interior and Insular Affairs will again be headed by Representative Engle (California). There is a change due to the death of the late Representative Priest of Tennessee in the important Interstate and Foreign Commerce Committee, which handles legislation affecting all federal regulatory commissions. The new chairman will be Representative Harris (Arkansas), co-author of the Harris-Fulbright gas producer exemption bill which passed in the last Congress but was vetoed by the President. Representative Celler (New York) again heads the Judiciary Committee. Representative Buckley of New York continues to lead the Public Works Committee. The most powerful House Committee of all, the Rules Committee, will again be headed by Representative Smith (Virginia). The Ways and Means Committee, with jurisdiction over all tax legislation, remains under the chairmanship of Representative Cooper (Tennessee).

Over on the Senate side only one change in the leadership of the companion standing committees mentioned above in the House is in prospect—and that through the death of a Senator. Senator Eastland (Democrat, Mississippi) will probably take over as head of the Senate Judiciary Committee, succeeding the late Senator Kilgore (Democrat, West Virginia). The

following are the hold-over Democratic chairmen of the other key Senate committees: Agriculture (REA), Ellender of Louisiana; Appropriations, Hayden of Arizona; Finance (taxes), Byrd of Virginia; Interior, Murray of Montana; Interstate and Foreign Commerce, Magnuson of Washington; Labor and Public Welfare, Hill of Alabama; Public Works, Chavez of New Mexico. The Joint Congressional Atomic Energy Committee will probably be headed in the next Congress by Representative Durham, Democrat of North Carolina.

How about changes of sentiment within the Congress as a whole? It almost follows from what has already been said about the low turnover in the new Congress that there has not been much of a shift in sentiment. Out of the 10 per cent net turnover in both chambers, about 3 per cent was due to routine replacements rather than any political defeat. This leaves only about 7 per cent net turnover as the result of political contests. When we check these on the basis of party affiliation we find very much of a standoff. In the Senate, for example, eight seats will be filled by new Senators with different political affiliations from their predecessors. But the net switch is even. Republicans replaced Democrats in four seats (New York, West Virginia, and two gentlemen from Kentucky). Democrats replaced Republicans in four seats (Pennsylvania, Colorado, Idaho, and Ohio). In addition, there was a retirement in Georgia producing no change of party, and a prospective retirement in Texas, with no replacement designated at this writing.

One could go down the list of net switches in the House of Representatives

THE OUTLOOK FOR PUBLIC UTILITIES—1957



No General Trend in the Election

"It is hard, indeed, to read ANY meaning at all into the recent congressional elections in terms of overwhelming sentiment for even the major issues of the campaign—much less the minor ones. We count as 'minor' issues the Eisenhower 'partnership' policy for federal power projects or the proposal to exempt natural gas producers from federal regulation. On the contrary, it could be safely said that not a single Senator or Representative in the 84th Congress was defeated simply because of the position he took on government power legislation or natural gas legislation."

and the result would be equally close and undecisive. Of course, it might be argued that some of the incoming Congressmen, regardless of party labels, might have different ideas about matters affecting public utilities (such as government ownership and federal projects and natural gas regulation). Merely calling the roll of the new members fails to disclose any particular trend, one way or the other, based on the past performance and known records of the new Congressmen.

Take the new Senators, for example. The Democrats will be Carroll of Colorado, Talmadge of Georgia, Church of Idaho, Lausche of Ohio, Clark of Pennsylvania. Three of them, Carroll, Church, and Clark, are regarded as favorable to

the government ownership point of view. They replaced four Republicans and one Democrat, all regarded as conservative on that point. On the other hand, the new Republicans, Javits of New York, Cooper and Morton of Kentucky, and Revercomb of West Virginia, seem to break even along public ownership lines. But they replace four Democratic Senators, *all* of whom had consistent progovernment ownership records! So, the net result is a standoff on past performance for all eight replacements.

THE point of this analysis is to explode the wild claims being made, not only on issues affecting public utilities but every other issue in the recent campaign, about

PUBLIC UTILITIES FORTNIGHTLY

"mandates of the people" or about certain policies being "endorsed" or "repudiated" or "discredited." It is hard, indeed, to read any meaning at all into the recent congressional elections in terms of overwhelming sentiment for even the major issues of the campaign—much less the minor ones. We count as "minor" issues the Eisenhower "partnership" policy for federal power projects or the proposal to exempt natural gas producers from federal regulation.

On the contrary, it could be safely said that not a single Senator or Representative in the 84th Congress was defeated simply because of the position he took on government power legislation or natural gas legislation. Representative Jonas (Republican, North Carolina), for example, was hailed by a co-operative organization as unique in having a 100 per cent "wrong" voting record on government ownership. A special effort was made to defeat him by the public power people. He was their No. 1 "target"—but was re-elected with his largest majority.

GOING further and analyzing those few districts where there are actual turnovers in congressional seats, there is a complete lack of consistency when any attempt is made to assign the result to any particular issue—whether it be farm legislation, labor legislation, foreign policy, or anything else that the candidates did or did not talk about during the campaign. For every seat won here, there was a seat lost there, and an inconclusive explanation involving a combination of possibilities for the result arose in almost every instance. Pontifical political analysts, therefore, who speak dogmatically about "mandates" labor under the suspicion that they

either do not know what they are talking about, or are simply trying to use the overall confusion to grind a special ax.

ABOUT the only general conclusion which might be reached—and it is a very modest and limited one—is that the Republican tide flowed a little stronger east of the Mississippi, while the Democratic tide flowed a little stronger west of that river. What is the basis for that? Well, on the net changeover the Republicans won eight seats from Democratic Representatives. They were located in Delaware, Illinois, Michigan, New Jersey (two), New York, Pennsylvania, and West Virginia. Conversely, the Democrats won nine seats from Republicans located in California, Kansas, Iowa, Minnesota, Missouri, Montana, Oregon (two), and South Dakota.

That is not much change out of a total membership of 435.

There is no need to go into the personalities involved in these changeovers, or to attempt to analyze any one reason for even this slight geographical variation. The explanations are all equally inconclusive.

With this analysis of the new Congress in mind as a background, we are naturally forced to the conclusion that the 85th Congress is going to feel just about the same way as the 84th Congress felt with respect to various measures of interest to the public utility industries. Add to that the fact that the Eisenhower administration, on the national level, feels that it has been confirmed in its policies, on the whole, and we get very little change in our projected picture of what is to happen during the coming year 1957. So let us get on with our predictions.

THE OUTLOOK FOR PUBLIC UTILITIES—1957

Predictions of Events for 1957

*(Here is a summary of the things likely to occur in Washington
of special concern to the public utility industry)*

1. *No changes in taxes.* Despite advance estimates of increased government tax collections and another balanced budget, efforts to cut income, corporate, or excise taxes will not succeed. Foreign commitments and uncertainties and threat of inflation are deterrents. Besides, 1957 is not an election year.
2. *A gas producer bill IF.*—With the sympathetic leadership in Congress, as well as in the White House, producers stand a fair chance of getting some legislation enacted to relieve the burden of FPC regulation—BUT only with three conditions: (1) that it is watered down from outright exemption; (2) that all three branches of the gas industry support it; (3) that there are also consumer safeguards and support.
3. *Battle over TVA—Partnership policy.* A change in TVA membership next spring (if not before) will cause a battle in Congress against the administration's policy under Chairman Vogel. It will not succeed. TVA will stay in Knoxville. A compromise plan to make its further power expansion self-supporting may be approved although not necessarily in 1957. No change in partnership policy despite heckling from the government power bloc in Congress. The administration will stand on its policy of encouraging participation by local agencies, including electric utility companies, in the development of new power projects.
4. *Snake river development.* The U. S. Supreme Court will finally vindicate the legality of the FPC licenses to the Idaho Power Company. But the Interior Department itself may announce a new plan for a federal storage dam on the Snake river, which would alter some of the private power company planning for new hydro plants on the Snake.
5. *A modified atom plant bill.* The chances are favorable to progress if not final passage of a compromise plan for letting the AEC take the leadership in developing nuclear power plants for its own power supply. This bill would also assist and safeguard private company development, including help on incidental insurance and regulatory problems.
6. *More rate case activity.* Continued inflation and more public service demand, complicated by pressing financing problems, will make more rate increases necessary for all public utility branches. Rate case litigation will also produce further review and revision of regulatory principles in various states.
7. *Compromise on Niagara.* The FPC will move promptly to block New York state's effort to go ahead without congressional approval. But the threat of further delay and litigation, plus an increasingly serious power supply situation, suggests compromise legislation which the state and the New York companies may have to accept.
8. *Radio frequencies and the telephone.* Competition for radio frequencies useful for new variations and improvements in telephone service will cause regulatory problems for telephone companies at both the state and FCC levels. Similar problems with respect to competition in telephone appliances and techniques will arise. Odds favor the telephone companies.
9. *Highway relocation struggle.* Public utilities of all kinds will be only partially successful in their efforts in various state legislatures to obtain changes in local laws permitting them to obtain reimbursement for relocation expenses in federal-aid highway construction. It looks like a long pull, which will go on for several years.
10. *Other state legislation.* Although nearly all of the state legislatures will meet in 1957, not many changes are expected to be adopted in regulatory laws. Proposals to change the rate base provisions may be expected in New York, Mississippi, and elsewhere, but not much final action is indicated.

PUBLIC UTILITIES FORTNIGHTLY

1. *Taxes.* There will be virtually no change in taxes for the coming year. That applies to both personal and corporate income. It also applies to the excise tax rates which still impose a 10 per cent levy on passenger fares (plane, train, bus, and interstate boat travel) and communication services (monthly telephone bills, long-distance calls, telegrams, radiograms, etc.).

The reasons are not hard to find. The most cynical reason is that 1957 is not an election year. In addition, the federal government is faced with even a larger amount of expenditures for defense proposals and foreign aid commitments—in view of the troubled international situation. At the same time the Eisenhower administration wants to make good its boast of another balanced budget. Another pressure point is the threat of inflation which might be aggravated by any tax reduction at this time.

And so, while the perennial outcry for reducing any or all of the foregoing classes of taxes will be heard often and loud in the next Congress, this writer's guess is that nothing will be done about them for the year 1957.

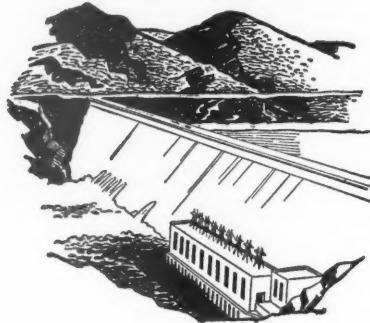
2. *Natural gas legislation.* On this controversial topic this writer must hedge in his forecast for the coming year. This is not a very satisfactory way to make a prediction because the readers like to know definitely what the prospect is, one way or the other. But there is a very good reason for hedging; namely, that nobody has yet offered a concrete proposal. Until somebody does offer a concrete proposal in the next Congress, and until one can study its exact purpose, and take a look at who sponsored it, who supports it,

who opposes it, and any other development by way of reaction to it, it would be sheer coin tossing to try to forecast one way or another what lies ahead in this field. The most we can be sure of at this point is that some bill will be offered in the next Congress to amend the Natural Gas Act as it applies to producers, more likely two, three, or more bills. Perhaps a couple or three months from now, when these bills are in the hopper, a more realistic appraisal of the chances of such legislation would be in order.

And so this forecast will have to be in the nature of one of those "if" forecasts. *This writer believes that there is a fair chance that the 85th Congress will pass legislation to clarify and alleviate the burden of FPC regulation in the natural gas field provided the following three "ifs" are taken care of:* (1) if the bill does not endeavor to exempt independent producers outright from FPC jurisdiction, under the act—which was attempted in the Harris-Fulbright Bill vetoed last spring; and (2) if there are objective and honest safeguards for consumer interests written into the bill, preferably with bipartisan support and sponsorship from gas-consuming state Congressmen; and (3) if the FPC is allowed some discretion to work out reasonable solutions for controversial phases of producer rate regulation, and is not thrust into a strait jacket of iron-bound formula based on preconceived preferences of special interest groups.

CLEARLY that is quite a difficult string of "ifs" to parlay into finally approved legislation. It will take a lot of doing. It will require a lot of give-and-take between segments of the gas industry

THE OUTLOOK FOR PUBLIC UTILITIES—1957



Niagara Situation Still a Stalemate

THE FPC has dismissed the New York State Power Authority's request for a license to develop the American share of Niagara's waters. But the alternative of private company power development does not follow. The FPC ruling could even be a step in the postponement of final decision on the question of who should develop the power, at a time when the need for power in the area is particularly acute. New York state is certain to appeal the FPC's ruling to the U. S. circuit court of appeals for the District of Columbia, and probably from there to the U. S. Supreme Court."

and others who were much in conflict about such legislation when it was before the 84th Congress. But, if it can be done, such a bill should pass with modest majorities in both houses of Congress, and President Eisenhower, honoring the promise made in the veto message of the Harris-Fulbright Bill, would sign such a measure.

It might be noted in passing that every major gas-producing state, including (to the surprise of most of us) Louisiana, cast its electoral votes for Eisenhower's re-election. On the other hand, nearly one-seventh of those who voted for the Harris-Fulbright Bill will not return to the new Congress. This writer is not suggesting these Congressmen's votes on the Harris-Fulbright Bill are the reason why they are

not returning to Congress. That just happens to be the way the ball bounces.

Just by way of two minor subordinate predictions under this heading: (a) There will be no outright exemption bill, such as Harris-Fulbright, enacted. (b) The chances of any bill will decrease the longer it is kicked around in the Congress. If it is not passed by April 1st, it will probably be a dead duck for the session.

3. TVA controversy. Chairman Vogel of the Tennessee Valley Authority has been having his problems with his two colleagues on that board. This is no secret. Both of these colleagues are "hold-over" nominees of the Truman administration. The term of one member, Mr. Curtis, ex-

PUBLIC UTILITIES FORTNIGHTLY

pires in May. Under the precedent established by the late President Roosevelt, in the case of the late TVA chairman, Dr. Arthur E. Morgan, President Eisenhower would not have to wait until May to replace any member of the TVA board where a conflict of policy developed. But the White House can afford to wait this one out, politely.

THE TVA controversy will come to a head with the replacement of Commissioner Curtis. The two Alabama Senators (Hill and Sparkman) have already served notice that they will fight replacement of Mr. Curtis with anyone not satisfactory to them. The real showdown will come over the current attempt to move TVA to Alabama from present headquarters in Knoxville. This will provoke an intraparty scrap. So the forecast is that Chairman Vogel will come out of the argument with at least a working majority on his own board, and that the Senate will go along.

Equally important for the future of TVA is a decision over the financing of necessary plant expansion. The 84th Congress failed to settle this problem decisively. TVA now has a sort of negative permission to use its own power revenues to finance plant expansion within certain limits. But the Comptroller General is uneasy. There have been alternative proposals for putting TVA on a self-supporting basis through revenue bonds and through other means.

This problem is too controversial to be settled during the coming 1957 session. But preliminary progress will be made. The final decision will probably lap over into the second session of the 85th Congress. The prediction is hereby made for

the coming year that Congress will temporize with another patchwork of implied permission through appropriation legislation.

During the coming year, also, there should be more evidence of other Tennessee cities (besides Memphis) doing something or planning something to take care of their own future power supply, instead of depending entirely on federal taxpay-
ers for the indefinite future.

4. *Snake river development.* Early in the New Year the U. S. Supreme Court will probably put an end to the long and tortuous litigation over the FPC licenses to the Idaho Power Company to build three dams on the Snake river. It will refuse to review or else affirm the lower court. This will end the legal phase of the so-called Hell's Canyon dispute. The Idaho Power Company will get on with the job of building at least two of the licensed dams—Brownlee and Oxbow.

But there is already reason to believe that the Interior Department itself may announce a new plan for a federal storage dam on the Snake river which could materially alter some of the private company planning in that area. It is not clear, as yet, how such a project will affect certain features of projects planned by private power companies in the Pacific Northwest. But a third dam planned by Idaho Power Company at Hell's Canyon might be eliminated if the Interior Department decides to back the larger storage project and Congress approves. A high dam at Pleasant Valley would probably flood out the Hell's Canyon site. A Pleasant Valley power project planned by four Pacific Northwest utilities would also have to be reconsidered.

THE OUTLOOK FOR PUBLIC UTILITIES—1957

What Interior is studying, apparently, is a giant federal storage and power project in the middle Snake, with private utilities building additional projects below and above it on the river. Such projects would include one at Mountain Sheep, now planned by the four utilities, and dams at Oxbow and Brownlee scheduled by Idaho Power Company. A high-level Interior Department conference recently took place at which Assistant Secretary Fred A. Aandahl and Reclamation Commissioner Wilbur A. Dexheimer participated.

5. Atom plant legislation. After much pulling and hauling a "compromise" may be reached at the next session of Congress which would permit the Atomic Energy Commission to take the leadership in developing nuclear reactor plants for electric power generation, while at the same time safeguarding private enterprise in the electric business. It would have to be a modification of the Gore Bill, which lost out in the 84th Congress because the administration viewed it as an attempt to set up the AEC as a monopoly in the atomic power business, to the exclusion of private company participation.

Such a compromise would help to solve a number of problems. It would permit the resources of the federal government to be concentrated on the complicated and expensive research necessary to screen and select the more practical techniques and plans still in the laboratory or blueprint stage. It would relieve the industry of the charge of "obstructionism" because of its objection to the old Gore Bill.

By concentrating AEC efforts on the development of power for AEC's own operations, private companies could be encouraged in participating for the development of projects contributing to the public power supply on a commercial basis. As part of the package, the worrisome difficulty of providing liability insurance and avoiding regulatory conflict arising under the Holding Company Act might also be worked out.

Clearly such a plan—if it covered that much territory—would provoke considerable controversy and debate. And for that reason final enactment might not be possible during the first session of the 85th Congress. But the bill itself should emerge and substantial progress made, even if final passage is deferred until 1958.



G"Two general conditions, very much interrelated, are certain for 1957. The first is a continuation of so-called 'tight money.' The second is a continuation of inflationary influence tending to debase the purchasing power of the dollar. Inasmuch as 'tight money' is supposed to act as a checkrein on inflationary influence, the chances are good that these economic Siamese twins will be with us for the best part of the New Year. And where does that leave the public utilities, with their rates rigidly controlled against a background of rising expenses? The answer would seem to be a lot of rate cases, meaning rate increase applications for all kinds of utilities."

PUBLIC UTILITIES FORTNIGHTLY

6. *Plenty of rate cases.* Two general conditions, very much interrelated, are certain for 1957. The first is a continuation of so-called "tight money." The second is a continuation of inflationary influence tending to debase the purchasing power of the dollar. Inasmuch as "tight money" is supposed to act as a checkrein on inflationary influence, the chances are good that these economic Siamese twins will be with us for the best part of the New Year. And where does that leave the public utilities, with their rates rigidly controlled against a background of rising expenses? The answer would seem to be a lot of rate cases, meaning rate increase applications for all kinds of utilities.

Tight money means difficult financing. That means the utilities will feel the pinch of raising new money to take care of necessary plant expansion to handle increasing service demands. And so, there will have to be higher rates to produce the necessary revenue to take care of higher financing costs as well as operating expenses.

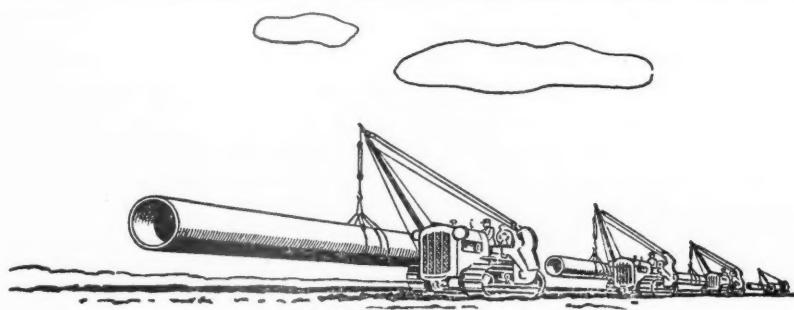
Almost as a necessary corollary to such rate case activity will be increased litigation in the courts. The state public service commissions will naturally develop more resistance at the regulatory level as the pressure increases for encore after encore in the matter of rate increases. In the process of such litigation we can also expect in 1957 some interesting regulatory decisions involving both court and commission reviews of power regulatory principles controlling public utility rate making. The classical conflict between cost and value in the rate-making process is already being re-enacted before the New York Public Service Commission, as

it again tries the application of the New York Telephone Company for a rate increase based on replacement costs. In all probability, with this large crop of 1957 rate decisions, there will be found some interesting reappraisals of rate-making precedents in various states.

7. *Compromise on Niagara?* The FPC has dismissed the New York State Power Authority's request for a license to develop the American share of Niagara's waters. But the alternative of private company power development does not follow. The FPC ruling could even be a step in the postponement of final decision on the question of who should develop the power, at a time when the need for power in the area is particularly acute. New York state is certain to appeal the FPC's ruling to the U. S. circuit court of appeals for the District of Columbia, and probably from there to the U. S. Supreme Court.

It is very doubtful if the higher court could, before its summer recess next June, dispose of this single question of whether the FPC could or should give New York a license, regardless of the old Canadian treaty reservation of such authority to Congress. Congress, of course, can go ahead without waiting for the courts, and pass on legislation authorizing either the state or the New York companies to build the project. Here the old division of opinion is likely to break out all over again. Although the House passed a bill in 1953 to turn over Niagara power development to five private utility companies, the bill died in the Senate.

The composition of the new Senate as a result of the elections is not sufficiently changed to warrant any pronounced shift



New Gas Bill and Three "Ifs"

THIS WRITER BELIEVES THAT THERE IS A FAIR CHANCE THAT THE 85TH CONGRESS WILL PASS LEGISLATION TO CLARIFY AND ALLEVIATE THE BURDEN OF FPC REGULATION IN THE NATURAL GAS FIELD PROVIDED THE FOLLOWING THREE 'IFS' ARE TAKEN CARE OF: (1) IF *the bill does not endeavor to exempt independent producers outright from FPC jurisdiction, under the act . . . ; and (2) if there are objective and honest safeguards for consumer interests written into the bill, preferably with bipartisan support and sponsorship from gas-consuming state Congressmen; and (3) if the FPC is allowed some discretion to work out reasonable solutions for controversial phases of producer rate regulation, and is not thrust into a strait jacket of iron-bound formula based on preconceived preferences of special interest groups.*"

in the chances of getting legislation authorizing private company development or the other alternative — state development. It will contain Senator Javits (Republican, New York) who filed the state's case with the FPC as New York's attorney general. But he replaces Senator Lehman (Democrat, New York) who felt the same way about it. So, there is no change there. The prospective stalemate suggests the likelihood that another attempt will be made to obtain companion legislation in the Senate, along the lines which failed to get final approval in the last session. This would give the state certain rights to development and the

companies certain rights to power supply, without the handicap of a public ownership "preference clause." This prediction will not make some readers very happy, but after all the true prophet has to call them as he sees them or turn in his crystal ball. He could be wrong.

8. Telephone companies. Competition for radio frequencies useful for new variations and improvements in telephone service will cause regulatory problems for telephone companies at both the state and FCC levels. Similar problems with respect to competition in telephone appliances and techniques will arise.

PUBLIC UTILITIES FORTNIGHTLY

The FCC originally gave the telephone companies a break by allowing them (Docket No. 11,435, September 19, 1956) to share certain frequencies for nonutility use with gas, electric, etc. This order was stayed and is yet suspended. But there is still an important case to be decided along the line of general communication competition with nontelephone company operators, when the state of California presses its case to use certain radio frequencies for state business.

Telephone companies also have some headaches building up as the result of the recent Hush-A-Phone decision by the U. S. circuit court of appeals for the District of Columbia. That case shook the very foundation of the telephone industry's traditional ban on "foreign appliances." The Hush-A-Phone is a commercial gadget which clips on over the telephone instrument. The telephone companies must now permit its use, unless the U. S. Supreme Court reverses the U. S. circuit court of appeals.

On the REA front, co-operation between independent telephone companies on REA loans for rural service is in prospect. Look for REA itself to get as much if not more appropriation for both electrification and telephone loans, as it received during the current fiscal year (\$100,000,000 for telephone loans). If the present "tight money" situation continues, there will be pressure to boost the bargain basement rate of 2 per cent which REA rural borrowers are now getting away with. But probably nothing will come of this movement but talk. Congress just loves those farm votes. And that leaves 2 per cent REA money as an increasingly attractive alternative to "tight

money" from commercial sources. The state commissions may even do some needling of telephone companies (seeking rate increases) about this situation.

9. Highway relocation. Public utilities of all kinds will be only partially successful in their efforts in various state legislatures to obtain changes in local laws permitting them to obtain reimbursement for relocation expenses in highway construction. It looks like a long pull, which will go on for several years.

Not all state laws need to be changed in order to permit the public utilities to get highway relocation benefits under the Federal Aid Highway Act of 1956. Some, such as California and New Jersey, already allow such reimbursement. Others call for legal opinions or highway commission regulations to make the state law either clear or permissible. Still others (a majority unfortunately) seem to forbid such payments to public utilities. These are the ones where the state legislatures will have to be worked on by the joint effort of all utilities (gas, electric, telephone, water, etc.) whether owned or operated by government or commercial companies or co-operatives. It would be a very optimistic appraisal to say that as many as a dozen such state law changes can be accomplished in 1957.

10. Other state legislation. Although nearly all of the state legislatures will meet in 1957, not many changes are expected to be adopted in regulatory laws. Proposals to change the rate base provisions may be expected in New York, Mississippi, and elsewhere, but not much final action is indicated.



Dividend Policy and Reduction of Tax Liability

This article is presented simply as an interesting proposal of what might be done in making utility financing through securities more attractive to investors, as well as more useful in raising the necessary capital for the issuing companies. It will be understood, of course, that all changes in dividend pay-out policy must be considered cautiously and with due regard for the reputation which a given class of securities has established among the investors, and their confidence in the same.

By FRED P. MORRISSEY*

It is well known that the utility industry, electric power, telephone and telegraph, gas, and water, has been making enormous demands on the capital market in the postwar period although the magnitudes may not be common knowledge. Last year \$3.6 billion of securities were issued by these utilities with 91 per cent of the funds raised representing new money (Table I, page 17). This total exceeded the sums raised in 1950, 1951, and 1952 but was substantially below the un-

precedented levels of 1953 (\$4.28 billion) and 1954 (\$4.1 billion). The electric power industry has been responsible for the largest share of this capital, with the natural gas industry usually holding the second position and the telephone and telegraph next—although as in 1955, these latter two have exchanged positions.

The composition of the aggregate demands is surprisingly stable during the last five or six years, with debt securities comprising a little over 70 per cent of the total and common stock a little less than 20 per cent. These proportions for the industry as a whole are valid whether one

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PUBLIC UTILITIES FORTNIGHTLY

is concerned with total security issues or those representing new money only (total securities issued less refundings and divestments). However, the same degree of consistency is not seen when one considers the component industries. The statistics for the telephone segment are complicated by the treatment of the convertible debentures of AT&T. These are reported as debt securities when issued and their subsequent conversion into common stock is disregarded. Accordingly, the telephone group shows a preponderance for debt securities initially, even though this is an indirect method of issuing common stock. The electric power industry thus appears to rely most heavily on new common stock issues with about 25 per cent of their securities being junior equities. The gas industry shows a still smaller and more variable proportion of common stock issues.

THE question immediately arises, are these demands for new capital likely to continue? The answer seems to be that the requirement over the past five to ten years is not exceptionally greater than future needs will be, and the utilities will have to continue to compete for large sums of capital over the next decade or quarter-century.

While time and space do not permit justifying this forecast in detail, one can indicate informed opinions of others that tend to support it. The Report of the President's Materials Policy Commission (the Paley Report) stated that electric generating capacity would have to be increased by about two and one-half times the 1950 level, from 83 million kilowatts to almost 300 million kilowatts, if projected needs in 1975 are to be met. This

would require an average gross addition of 10 million kilowatts each year—an average we have not sustained to date. Similarly, Philip Sporn has estimated that in 1975 the electric industry will be producing three times the current generation of 620 billion kilowatt-hours. The summary of forecasts prepared by Dr. Morehouse for the National Bureau of Economic Research Conference on Regularization of Business Investment (Table 29 therein) while showing wide variation, substantiates the optimistic expectations of annual rates of growth of 6 per cent or more for the electric power industry.

IN the telephone industry the same general picture is painted, although forecasts of twenty years' duration are not available. One of the rapidly growing operating units of the Bell system has estimated that in the next ten years, telephones in service in its territory will almost double and total plant investment, which has increased by almost \$1.5 billion since 1945, will increase by another \$2 billion by 1965. In the natural gas industry, shortages of available gas reserves may develop and slow down the growth of that industry, but it is reasonable at this time to expect a continuation of the unprecedented natural gas expansion particularly due to enlarging residential load and its expanded use in chemical production.

We may yet witness the fulfilment of the prognostication of Dr. John von Neumann of the Atomic Energy Commission—writing in "The Fabulous Future-America in 1980"—that "a few decades hence energy may be free—just like the unmetered air—with coal and oil used mainly as raw materials for organic chemical synthesis . . ." Nevertheless,

DIVIDEND POLICY AND REDUCTION OF TAX LIABILITY

until that day the utility industries must be prepared to meet the expanding needs of the public, and to do this they must continue to raise billions of dollars annually. To compete for this capital successfully and attain the lowest long-run cost of capital, utilities must pay the strictest attention

to the desires of investors and cater to their every wish.

THE utilities as a group have enjoyed a strong demand for their senior securities. The stability of their operations and the institutionalization of savings as



TABLE I
UTILITY SECURITY ISSUES
1950-55
(In Millions of Dollars)

Year	Total Utility Issues	Per Cent Of Total	Electric Power	Per Cent	Gas	Per Cent	Telephone And Telegraph	Per Cent
1955	Debt 2,623	72%	927	62%	689	69%	973	88%
	Pref. Stock 347		212		89		32	
	Common Stock 683	19%	358	24%	213	21%	100	9%
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	3,653		1,497		991		1,105	
	% New Money 91%		91%		89%		93%	
1954	Debt 3,063	75%	1,485	65%	1,004	88%	554	86%
	Pref. Stock 527		429		63		26	
	Common Stock 497	12%	359	16%	71	6%	65	10%
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	4,087		2,273		1,138		645	
	% New Money 72%		74%		56%		90%	
1953	Debt 3,147	73%	1,605	68%	735	72%	767	91%
	Pref. Stock 355		224		111		8	
	Common Stock 779	18%	537	23%	174	17%	68	8%
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	4,281		2,366		1,020		842	
	% New Money 98.5%		99%		97%		100%	
1952	Debt 2,399	72%	1,117	64%	583	74%	687	91%
	Pref. Stock 313		201		86		22	
	Common Stock 603	18%	436	25%	121	15%	42	6%
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	3,314		1,755		790		751	
	% New Money 95%		99%		84%		99%	
1951	Debt 2,146	73%	1,004	65%	663	83%	482	83%
	Pref. Stock 287		182		72		29	
	Common Stock 511	17%	346	23%	96	12%	69	12%
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	2,945		1,531		831		581	
	% New Money 97%		98%		95%		99%	
1950	Debt 2,307	70%	1,119	62%	829	80%	319	86%
	Pref. Stock 414		321		78		11	
	Common Stock 541	17%	371	20%	126	12%	43	12%
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	3,262		1,810		1,034		373	
	% New Money 69%		69%		66%		80%	

Note: Totals may not add precisely due to rounding.

Source: Moody's Manuals and Ebasco Services Incorporated.

PUBLIC UTILITIES FORTNIGHTLY

evidenced by the importance of life insurance companies, savings banks, etc., to the capital market, indicate that a ready demand for fixed-charge securities will continue although, perhaps, at higher costs than many firms have been accustomed. Conservative capital structures and the growing market for utility services will serve to put the expanding companies in a strong bargaining position for issuing senior securities.

THE area of possible weakness is in the common equity market. The utilities have accounted recently for about 40-60 per cent of the dollar value of common stock issues, except in 1955 when the increase in nonutility common stock sales pushed the utilities' proportion down to 31 per cent for that year—a proportion that appears to be continuing in the first half of 1956. If the predicted expansion is achieved, it is likely that the utilities will be raising at least \$600-800 million annually (20 per cent of \$3-4 billion) through common stock issues under present methods. To raise these sums on favorable terms will require all the ingenuity of the financial experts, particularly when it is recognized that utility stock provides a poor hedge against inflation and there are many strong indications of long-run price inflation.

One obvious aid would be to enable equity security holders to minimize their tax liability. For decades, utilities have been following a policy of paying out in cash dividends a large proportion of their earnings. This practice appears to be based on the assumptions that (1) investors in utility stocks want cash dividends and that (2) the capital needs of utilities are so great that retention of earnings would be

of little help. We can dismiss the second assumption by simply pointing out that for the five-year period 1950-54, the electric power industry paid out \$3 billion in common dividends at the same time that it raised \$2 billion in new common stock capital. Thus, on the basis of approximately 70 per cent pay-out of earnings, the net income after preferred dividends was about twice the common equity raised externally.

THE first assumption is open to question on several grounds. As stated in an earlier article in this publication,¹ there is reason to doubt that investors do continue to value cash dividends more highly than retained earnings in many situations. The fact that "growth stocks," companies with excellent futures and characteristically very low pay-outs and yields, are the "darlings" of the investors, further substantiates our questioning of the overwhelming importance of current cash dividends. And perhaps most important, the payment of a large portion of earnings in cash dividends precludes investors from taking substantial advantage of the capital gains tax and escaping a portion of double taxation of income.

Investors must surely be sufficiently astute to recognize that cash dividends mean higher personal income tax liabilities for all recipients except those in the very low income tax brackets. If investors are aware that high cash pay-outs are not in their best interests they can either discount the income and bid lower prices for the security, thereby depressing the market price, or else they can avoid utility equities entirely, which will also tend to adversely

¹"Dividend Payout and Utility Common Stock Value," by Fred P. Morrissey, PUBLIC UTILITIES FORTNIGHTLY, Vol. 55, No. 11, p. 583, May 26, 1955.

DIVIDEND POLICY AND REDUCTION OF TAX LIABILITY



TABLE II
PUBLIC UTILITY COMMON STOCK—METHOD OF ISSUE
1948-55 Selected Years
(Millions of Dollars)

(Millions of Dollars)							Telephone And Telegraph	Per Cent
Year	Total	Per Cent	Electric	Per Cent	Gas	Per Cent		
1955	Public Offering	214	105	71%	94	57%	10	
	Subscription Offering	469	254		119		90	90%
1954	Public Offering	683	358		213		100	
	Subscription Offering	162	96		47		20	
		335	263	73%	24	34%	46	70%
1953	Public Offering	497	359		71		66	
	Subscription Offering	319	203		85		31	
		460	334	62%	89	51%	37	54%
1951	Public Offering	779	537		174		68	
	Subscription Offering	156	107		29		20	
		355	238	69%	67	69%	50	71%
1949	Public Offering	511	347		96		70	
	Subscription Offering	189	150		38		1	
		485	370	71%	66	63%	49	98%
		674	520		104		50	

Note: Totals may not add precisely due to rounding.
Source: Moody's Manuals and Ebasco Services Incorporated.

affect the market price. If many investors are taking this latter course, the utilities could be losing a substantial potential market for utility common stock.

BUT still another reason exists for doubting the absolute preference of utility investors for cash dividends and high pay-outs. Frequently we see reference to utility common stock as a "widows'

and orphans' " security with a picture of a multitude of individuals dependent upon their cash dividends for their livelihood. Yet the facts seem to point otherwise, for while the utilities have been paying out cash dividends, they have been offering concurrently additional stock to their stockholders by means of rights. From 1948-54 the electrics paid out about \$3,-855 million in cash dividends to common

PUBLIC UTILITIES FORTNIGHTLY

stockholders and raised about \$1,828 million through the sale of common stock—by means of subscription. (See Tables II and III, pages 19 and 21.) It can be seen then, that the utility common stockholders were asked to return as new capital to their industry almost 50 per cent of the cash dividends that they received in the seven years.

WHILE the proportion of present stockholders who actually subscribe to a new issue is not known, a limited sample of companies would suggest that it is well in excess of 50 per cent. The more important statistic, however, would not be the proportion who subscribe to any one issue but who repeatedly exercise their rights when new issues are offered. Again, however, indications are that these "repeaters" represent a very sizable proportion of the stockholders. It is relevant then to ask if utility management is acting in the best interests of these stockholders by paying out earnings which have been subject to high corporate tax rates and subsequently to personal income tax at the high marginal rates, and then asking these stockholders to return what is left of the cash dividends as a capital contribution to the company. Such equity holders clearly are not buying utility stock for cash income purposes and utility management should recognize this. If management knows, or can determine who are the "repeat subscribers," a basis for segregating stockholders exists. Any sizable utility stockholder group who are not dependent upon cash dividends for income should be given the opportunity of legitimately reducing their tax liability, an opportunity not afforded currently by a policy of continuous high pay-out of *cash* dividends.

How can this opportunity of a reduction of tax liabilities be provided? Quite simply in one of two ways: The first might be to reduce pay-out drastically and plow back much of the earnings of the company. The procedure might appear to militate against the interests of stockholders desiring cash income and might be discarded on that score. Instead, the second possibility with much merit is a dividend policy which incorporates stock dividends. While the details of any such plan would have to be tailored for the needs of the individual company after considering the investment objectives of the equity group, the rate of the company's expansion, methods of financing, and perhaps other factors, the use of stock dividends alone or in combination with cash dividends provides many advantages.

Any substitution of stock dividends for cash enables the company to finance more of its capital needs internally and makes less direct demands for outside capital. This would save some of the costs of selling securities, and in so far as a new stock issue depresses the market price of existing stock, this pressure is reduced. The investor, on the other hand, may be said to have his cake and eat it too—for should he wish cash income or decline to make additional investment in the company, he can sell the new shares in the market. For tax purposes the proceeds of such sale would appear to be a return of capital and subject to the capital gains tax—and not the usually higher marginal income tax rates. Conversely, should the investor desire to reinvest in the company, as many utility stockholders are demonstrating their willingness to do through exercising their subscription rights, the process is automatic at a substantial reduction in tax

DIVIDEND POLICY AND REDUCTION OF TAX LIABILITY

liability for many investors. At the time of sale of the securities, the capital gains' tax would be applicable on the appreciation instead of the current income tax annually on the cash dividends.

THE merits of this stock dividend plan for utilities are substantial and would appear to warrant careful investigation by management. In the financial world stock dividends are not new. Industrial corporations have made use of stock dividends for long periods—and we need to mention only Eastman Kodak, International Business Machines, Dow Chemical, Standard Oil of California, and Pittsburgh Steel as companies paying stock dividends with some regularity. (One difference in their use by industrials may appear, however; for there they are apparently used to reduce reported earnings per share and mask a real cash dividend increase since cash dividends per share are usually maintained and the stock dividends per share are considered supplementary.)

In view of this familiarity and the obvious advantages in their use, one might

look for some serious obstacles to a policy incorporating stock dividends. Would it be approved by the regulatory commissions and would the capitalized earned surplus (or the assets acquired therefrom) be included in the rate base? Clearly, investors would have to be allowed a return on these retained earnings or this proposal would be quite unacceptable to them. There appears little reason to expect opposition from a commission to a policy which should effect a reduction in the cost of capital through reducing taxes and attracting more investors to the utility's stock. It need not be argued that a utility and the regulatory commission have the obligation of reducing every expense to the minimum, including direct and indirect tax payments.

ON the rate base question there is adequate precedent for considering retained earnings as part of the stockholders' investment—and there is no essential difference between capitalized and uncapitalized earned surplus except in terms of their designation on the balance sheet—



TABLE III
DIVIDEND DISTRIBUTION AND SALE OF COMMON STOCK
THROUGH SUBSCRIPTION
Electric Utilities—1948-54
(Millions of Dollars)

Year	Net Income	Pref. Dividends	Common Dividends	Common Stock Issues Sold Through Subscriptions	Relation of Subscription Issues to Common Dividends
1954	1,134	144	724	263	36%
1953	1,030	138	643	334	52%
1952	947	130	596	270	45%
1951	814	119	533	238	45%
1950	822	111	508	245	48%
1949	757	103	456	370	81%
1948	657	98	395	108	27%
			3,855	1,828	7-yr. Av. 47.4%

Source: Dividend data—FPC—statistics on class A and B electrics common stock sale data—Ebasco Services Incorporated, therefore not absolutely comparable.

PUBLIC UTILITIES FORTNIGHTLY

the former being reflected in an increase in the common stock account and the latter in a higher earned surplus.

One objection might be raised to a complete substitution of stock dividends for cash by investors wanting cash income because these investors would be forced to liquidate the stock dividend—perhaps in a temporarily depressed market, thus realizing less cash than the corresponding cash dividend would have been. For many, the tax benefits might well outweigh this possible direct loss. Yet a carefully designed system of optional dividends payable in cash or stock would remedy this drawback. The novel dividend plan of Citizens Utilities Company is a possible answer. This company recently offered its stockholders the choice of Series A common or Series B common with similar voting rights but the dividends on the Series A are payable in Series A common and the dividends on Series B are payable in cash. The popularity of the stock dividend was evidenced by the fact that three times the number of Series A shares are outstanding as are Series B and the former have commanded a slightly higher price in the market. However, because the company had paid stock dividends quite regularly in the past, one might have expected an equity group more favorable to stock dividends than utility investors in general.

IN conclusion, there can be no doubt that if utilities are going to continue to raise equity capital on favorable terms, the investment objectives of the investors must be appreciated. To date, most utility companies have followed a policy of paying cash dividends and then asking the recipients to reinvest the same money

through subscription to a common stock issue, a procedure peculiarly designed to ensure payment of double taxes without cause. A review of dividend policy of utilities indicates that some companies have used stock dividends recently—including Consumers Power, Hawaiian Electric, Cincinnati Gas & Electric, Carolina Power & Light, and Arkansas-Missouri Power. But it appears that the practice could be much more widespread to the benefit of utility investors and customers. A dividend policy which incorporates stock dividends in some fashion would provide investors with an opportunity to reduce their personal income tax liability and at the same time increase and strengthen the market for utility stock.

It is not appropriate here to attempt to spell out a plan applicable to all utilities. As suggested above, any policy of a company should be directed at the particular objectives of its present stockholders and of that class of investor that it would like to attract. This suggests that a utility should attempt to learn and understand the investment aims of its security holders and, if possible, to meet these aims. When it is recognized that utility management has done much to create a favorable investor attitude towards the company by way of detailed annual and quarterly reports, talks before analysts' societies, etc., investigation of its investors' objectives is a logical step. Utility management today cannot be accused of lack of foresight or dynamicism in matters of technology, and they should not be hesitant to recognize that dividend policy must be dynamic in view of changing economic and financial conditions.



Advance Planning for Utilities Pays Off

Public utility companies are supposed to have a pretty good idea of what the future of a city will be, because it is their service responsibility, as well as good business, to be forehanded, not only on trends and directions of population shifts, but also the likely changes in the character of various areas and neighborhoods. But do the public utility companies actually plan ahead as they should? If so, how do they do it? How is the master plan and the subordinate planning and the co-ordinated plan, and the continuity organized?

By THOMAS E. J. KEENA*

THE wags who corrupted the late Thomas J. Watson's business slogan into THIMK have a new placard for their office walls these days. It reads: PLAN AHEAD.

The obvious joke is that someone did not plan ahead. It underlines the spectacle of pride coming before a fall. And it has a special meaning for business and industry in a country doing more planning and research than ever before.

Planning and research cannot afford to

fall short. Nowhere is that more true than among the utilities, which must provide the energy and the light and the communications for a humming economy.

Because of their planning and research, utilities can tell you, perhaps better than anyone else, what your community is likely to resemble in the future. This blueprinting takes two forms. One is detailed, for the year or years immediately ahead. The other is long range, setting sights on the world of five, ten, twenty-five years from now.

A newspaper reporter recently was assigned to work on a story of what his city

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PUBLIC UTILITIES FORTNIGHTLY

would be like in twenty-five years. "Start with the telephone company or the light company," he was advised. "They've got a pretty good idea."

NORMAN B. BERTOLETTE, president of the Hartford Gas Company, talking to a group of civic leaders in Connecticut recently, illustrated what the editor meant. He said:

Our optimism as to the future of our business is strengthened by the recent growth of population and of business and industrial activity in Connecticut, and particularly in greater Hartford. There are also sound predictions of continued growth in the years immediately ahead, and we believe we will share in it. We have revised our five-year forecast which now predicts a 48 per cent increase in gas sales, a 33 per cent increase in revenues, and which will require a 30 per cent increase in utility plant investment through 1960.

But Hartford Gas is a relatively small company, with a utility plant investment of approximately \$15 million. What about The Southern New England Telephone Company, which services more than a million telephones in one of the nation's fastest-growing states?

SNET's president, Lucius S. Rowe, has emphasized in recent talks to many leaders in Connecticut:

Growth has been the keynote of our business through its seventy-seven years of existence. The rate of development now indicated for the next twenty years will equal or exceed the rapid growth of the past five years.

This also was the theme of a survey

compiled under the direction of the company's vice president and comptroller, J. Edison Doolittle. It is part of a detailed prediction that is the basis of company planning. Among other items, it makes these points:

Connecticut, the fastest-growing state in New England, ranks high among states east of the Mississippi river in growth. Its increase is expected to continue at a rate faster than the country as a whole.

Growth from migration in the next twenty years should be substantial. Because of the trek to the suburbs, Fairfield county is growing rapidly as the New York metropolitan area expands. Connecticut, situated across the major land routes to the rest of New England and fronting on Long Island Sound, is an attractive place to locate.

About 600,000 additional people are expected to migrate to Connecticut by 1975.

The gain in telephones is expected to average over 51,000 annually through 1959.

These estimates were made about a year ago. They have stimulated thought and discussion among industrialists and public officials. But results have already made these estimates look conservative. Experience has indicated that growth may be even faster, according to Goodwin D. Wolff, chief statistician on Mr. Doolittle's staff.

THIS effort to plot the future has serious purpose. Cleo F. Craig, chairman of the board of AT&T, said in his annual report last year:

What we want to do in every case

ADVANCE PLANNING FOR UTILITIES PAYS OFF

is to learn, and, if possible, anticipate the needs of the public and satisfy them fully. . . . The Bell companies have organized to bring about a fully co-ordinated merchandising program. This includes studying and measuring the market for present and future services, forecasting and planning to meet long-range needs; bringing grass-roots knowledge of public preferences to the designers of equipment, and scheduling manufacture, promotion, and marketing activities so that all services will be promptly available.

FORECASTING and graphs may seem far from the humdrum business of hooking up a telephone circuit or an electric supply. But they concern what your state may be like in the future. And a utility's progress is closely interwoven with the street—or the state—where it lives. Listen to Sherman R. Knapp, president of The Connecticut Light & Power Co.:

The growth of a company such as CL&P, which is so closely associated with the people and economy of Connecticut, brings a heightened public responsibility. In a state as old, as well developed, and attractive as ours, continued growth poses special problems.

Our customers want increasing amounts of the services we supply but they also want delivery to be made with the least possible interference with the natural beauty of our towns and villages. . . .

Planning for the future in our business is a never-ending job. In the case of power generation we must look twenty or twenty-five years ahead and in almost every major undertaking, time is measured in years rather than in months or weeks. It is not enough that we keep pace with Connecticut—we must keep ahead of the future needs of our great state.

THE private utilities must plan ahead, far ahead. It is not possible to store phone service, or gas service, or electric service. If a customer is to use these, there must be a wire into which he can tap, or a supply at the end of the line he approaches. That means someone must have anticipated his needs.

They must know not only how much energy or telephone service he needs, but what kind. A Detroit Edison round table on planning, looking ahead ten years, pointed out that suburban living, new appliances, color TV, air conditioning, elec-



Q"PLANNING and research cannot afford to fall short. Nowhere is that more true than among the utilities, which must provide the energy and the light and the communications for a humming economy. Because of their planning and research, utilities can tell you, perhaps better than anyone else, what your community is likely to resemble in the future. This blueprinting takes two forms. One is detailed, for the year or years immediately ahead. The other is long range, setting sights on the world of five, ten, twenty-five years from now."

PUBLIC UTILITIES FORTNIGHTLY

tric heating, and the extent of their growth will have a direct bearing on what service the company must provide.

In a sense, all planning starts with a load forecast, as CL&P's Calvin Hughes maintains. "All groups who have the responsibility for system planning sooner or later require that a load forecast be made," he points out.

But when you are making the load forecast, you look at a lot of things. You look at forecasts of population for your area. You look at the production index and the way it is expected to go. You listen to economists—even if they sometimes are charging in different directions.

Every planner has a stack of long-range forecasts on his desk. He knows what the Paley Report said about the world's resources and America's supply of vital materials. He knows what the McKinney Report says about the future rôle of atomic energy in meeting the nation's hopes and needs. He reads the National Industrial Conference Board studies, bank reports, anything and everything he can get on the future.

If, from these, he can work out a good general curve showing what is likely to happen in the future, he must still adapt it to his own area. To that end, he asks himself: "How are we different from the national average?"

IN Connecticut's case, there are two major differences. The state has a net immigration, the way the statisticians talk. That means its population is growing faster than the average. And it is an industrial state, whose people depend on jobs in manufacturing.

Now, then, you can chart a curve for the state. But what about filling in de-

tails? You talk to your customers, particularly in the industrial field. What are their plans? What are their forecasts about the level of activity in coming years?

You want to know about residential trends, too. You talk to builders, real estate men, developers, town officials. You watch long-range highway plans, which may change the pattern of development.

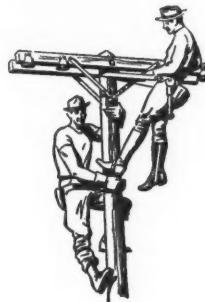
You are interested in the habits and standard of living of family units. In recent years, new appliances have caused a tremendous thirst among residential customers for power. The appliances will do all sorts of odd jobs around the home, easing manual labor.

Companies have gone so far as to put on recording devices to monitor the load and see how much these appliances are used and what their rôle may be in the future. The total electric load is now doubling every ten years. No one expects it to continue to grow at that rate. But the birth rate and the growth of population mean that there is an onrushing demand for services and power that the utilities must meet.

Not only must they brace themselves to meet the demand surely coming, but utilities today recognize an obligation to stimulate and increase that load. They want to boost sales, of course. But there are other reasons as well.

Thus Connecticut Light & Power Co. lent one of its men to Connecticut to head the State Development Commission. This commission seeks to attract new industry and new business to the state. It is not only a matter of civic interest; the company reasons that if people in the state have good jobs, they will make good

ADVANCE PLANNING FOR UTILITIES PAYS OFF



Shifting Exchange Areas

“WITH city boundaries fading, it is hard to maintain existing telephone exchange boundaries. Suburbanites work in one area, live in another, and the community of interest grows. This has been met by what is known as extended local service—including nearby exchanges in the area of local calling—eliminating a toll charge. Suburbs are thus connected by direct dialing. Local rates are increased to cover the cost.”

wages and will be good customers for appliances and the domestic load.

The president of the company, Mr. Knapp, accepted the job of heading the flood recovery commission that Governor Abraham A. Ribicoff named a year ago to spell out the legislation and the work needed to get the state back on its feet.

CL&P is not just content to let growth happen, the company assured its stockholders in its annual report. “An area development department assists existing industries to relocate in the state and promotes the state to prospective new industrial customers. Through active participation in state and local educational projects, the company endeavors to enlarge existing occupational opportunities and to create new ones for the young men and women in its service area.”

PARENTHEtICALLY, it may be noted that CL&P joined other Connecticut utilities last year in publishing a booklet to be distributed to high school seniors outlining job chances and fields of promising employment in the state.

“Company employees are active in a wide variety of civic betterment programs, which have the common aim of making their communities better places in which to live and work. Through these and related activities, the efforts of the company in the over-all job of building a better, more prosperous Connecticut, are being increasingly recognized throughout the state,” the report concludes.

All of these factors—industrial prospects, sales promotion, domestic uses and prospects, rural use and prospects, commercial use and prospects—enter into the

PUBLIC UTILITIES FORTNIGHTLY

forecast of what load the company must meet. But then it enters upon another planning phase, providing facilities to meet the load.

Here the utility must have an idea of where the load will be needed, what routes are available for transmission and distribution lines, what sites are possible for generating plants. It must schedule its improvements so that it has the money to pay for them. It must be prepared to cope with the opposition to change that sometimes crops up. It is growing harder to get new rights of way all the time, so the old routing must be used as much as possible. Even new substation sites are hard to find.

WHO does the planning? At CL&P, the research department makes up most of the load forecasts. Staff members with different responsibilities meet weekly and keep others abreast of the way their work is progressing. And Mr. Hughes, in his post as vice president, supervises the long-range planning effort.

In a small company, as might be expected, the program is more compact. Hartford Gas concentrates its greatest effort in five-year forecasts by a committee made up of the staff of the company. Then, with each year's budget, details are hammered out.

Mr. Bertolette notes that his budget committee draws on most of his 15-man operating staff. It works in subcommittees, one of which makes sales estimates, another gas production programming, a third analyzes sales promotion prospects, and another projects capital improvements.

"We're a small company, yet we're putting almost a million dollars this year

into the extension of plant," he remarks.

The company is spreading out with the community. Like all metropolitan areas, Hartford is bulging and its people are heading for the suburbs. Through greater Hartford and Manchester, gas people keep an eye on the trends, talk with some seventy building contractors, drop in on the town halls to watch records and to chat with officials. That way they keep ahead of the developments.

AN example of long-range planning by the company is its work in bringing natural gas to the Hartford area. Before World War II, company officials had studied the use of that fuel in areas where it was available and economical. Then transmission lines, using high-pressure pumping, were extended north and northeast. By early 1950, it was evident that it would soon be available to New England.

The Hartford Gas Company employed a New York consultant to recommend how best to introduce natural gas in its area. Prolonged litigation delayed the arrival of the fuel. Plans laid out well in advance to convert appliances in the Hartford area were upset, but the program has since gotten back into gear and is gaining momentum.

Meanwhile, the company had been improving its service by mixing the gases as they became available. At one point last winter, it was supplying a mixture of six different gases. That included the coke-oven gas it has had, manufactured gas, and natural gas.

For two years, it has supplied a mixed gas of 800 Btu, giving a 50 per cent increase in heating value per cubic foot over the previous supply. That, too, took planning. By three years, however, the

ADVANCE PLANNING FOR UTILITIES PAYS OFF

system will convert entirely to natural gas.

How do these companies, regulated as they are, pay for the improvements they schedule? For capital investment, they use what part of their earnings they can retain for that purpose, plus reserves accrued over the years. The balance they get through borrowing or issuing stock, subject to authorization by the state public utilities commission, which looks to see that any such financing plans are in the best interests of the customers.

Where improvements in service are concerned, at increased expense, the companies may take a case for rate increases to the public utilities commission. When they do, they back it with revenue and expense estimates, cost studies, and all the data they can summon to justify the rise.

Take, as an example, a problem that is coming up increasingly in this area. Spreading population is wiping out countryside—housing grows where tobacco once flourished—and city boundaries are almost indistinguishable. There is virtually one linear city, a Yale panel recently agreed, from Portland, Maine, to Norfolk, Virginia.

With city boundaries fading, it is hard to maintain existing telephone

exchange boundaries. Suburbanites work in one area, live in another, and the community of interest grows. This has been met by what is known as extended local service—including nearby exchanges in the area of local calling—eliminating a toll charge. Suburbs are thus connected by direct dialing. Local rates are increased to cover the cost.

THE Milford exchange was cut over last year in such an operation. Milford was once a sleepy town about halfway between New Haven and Bridgeport. In the past several decades, it has thrived as a bedroom town for people who work in either city, as well as a busy community in its own right.

This created a problem. Several millions of toll calls at 10 cents each were being made every year between Milford and New Haven, and Milford and Bridgeport. It was an obvious burden on the callers, the accountants, and the switchboards. They were expensive to handle. So a changeover was proposed.

With that, the commercial people began studying the service needs. The plant extension people made a detailed study of what central office equipment would be needed, what would have to be done to lines and equipment and outside plant, such as cable. Public relations representa-

3

Q"All the utilities agree that 'you can't plan in a vacuum.' They must be attuned to the needs, habits, hopes, and desires of their communities. They must also be aware of the work of all departments and the so-called state of the art in their fields—the advance of technology. . . . What all the utilities expect to do is to have service ready when it is needed. To do that, they must decide when, where, and in what amounts it will be wanted."

PUBLIC UTILITIES FORTNIGHTLY

tives studied what was involved in the change.

THE economic aspects were studied to make sure the change was warranted and what new rates would be required to pay its way—not only now, but ten years from now. Would it be worth while over the long run, and a desirable service improvement, compared with other projects on the fire?

Then the commercial people began making calls on subscribers. What did they think of the plan? Would they pay a slightly higher rate to avoid the inconvenience of toll calls? The poll registered an overwhelming 70 per cent of the Milford customers in favor. With that, the company went to the utilities commission, obtained approval, and made the change to the extended local service.

Logically, this dialing to exchanges farther and farther from your home is a form of direct distance dialing. That was introduced in Connecticut last year, too. But that involves calling between telephone systems and maintains the toll rate schedule.

Direct distance dialing might be a case history in long-range planning. This change, which will permit you eventually to dial to any area in the country, was first recognized to be practical in the late 1940's. The Bell system advised its members it was surely coming. SNET began a study to see what it had to do to adopt it. Here were some of the steps that had to be taken:

All exchanges in the state had to be converted to a uniform two-letter, five-digit identification system. Once this decision was made, it became a hurry-up-and-do-it matter, according to Willard F.

Robb, general commercial engineer. "We were one of the first states to complete our changeover to two-five," Mr. Robb notes. "On November 14, 1953, the last exchange in our system to be manually operated went over to dial in Cornwall. On June 19, 1955, Saybrook, Essex, Deep River, Lyme, and Clinton exchanges were the last to go over to the two-five numbering."

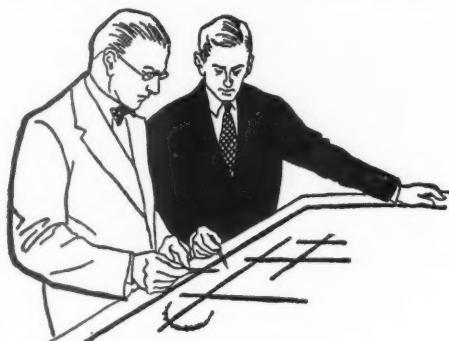
New equipment had to be scheduled. It had to be housed. Engineers and maintenance personnel had to be schooled in operating it and keeping it working. A decision had to be made on where DDD would be installed first and at what intervals it would be established in other exchanges in Connecticut.

For some of these programs there were clear-cut answers. SNET knew that Connecticut, an urban, near-metropolitan area, progressive, receptive to change, would want DDD, as it had other improvements, as quickly as possible. SNET was prepared to replace much of its costly existing equipment because DDD offered twin advantages of providing better service and easing a critical labor shortage.

The latter was a major reason why Hartford, the state capital, was chosen to be first converted to DDD in 1956. It had been increasingly difficult to get qualified operators there, in competition with flourishing business and industry. Hartford was the last city in the United States to be taken out of the category of a critical labor shortage area.

ALL of these questions were handled, in a routine made smooth by practice, by SNET's long-range planning committee. DDD was a preoccupation for years of this group. It is headed by the plant

ADVANCE PLANNING FOR UTILITIES PAYS OFF



Need for Long-range Utility Planning

THE private utilities must plan ahead, far ahead. It is not possible to store phone service, or gas service, or electric service. If a customer is to use these, there must be a wire into which he can tap, or a supply at the end of the line he approaches. That means someone must have anticipated his needs. They must know not only how much energy or telephone service he needs, but what kind. A Detroit Edison round table on planning, looking ahead ten years, pointed out that suburban living, new appliances, color TV, air conditioning, electric heating, and the extent of their growth will have a direct bearing on what service the company must provide."

extension engineer, who gathers data from and co-ordinates the views of the various departments and then analyzes plans in terms of costs.

Among the committee's members are representatives of the plant engineer, concerned with problems like cable expansion; the traffic engineer, who advises on switchboards, operators, and quantities of equipment needed; public relations, who consider measures to inform the public about the new type of service; accounting, which may have to study the effect on billing of calls and subscribers' accounts; and commercial, to consider the impact of plans on the community.

The long-range planning group meets

every two weeks. It looks far ahead, directing fundamental planning on where lines may be developed, what service will be needed, where conduits may have to go, and where the locations will be of future central offices.

Fundamental planning has to determine what will be needed perhaps twenty years from now. The same patient leg work done by other utilities goes into estimates of local exchanges and how they will grow, based on the statistical projections.

From these studies, notes John E. Nettleton, engineer for fundamental planning in the office of the plant extension engineer, can be made estimates of what local line requirements will be. Then, based on

PUBLIC UTILITIES FORTNIGHTLY

toll messages now recorded between exchanges, an estimate of future business, the need for new lines and projected growth, an estimate of the state as a whole can be drawn.

THE fundamental plans may lay out a schedule ten to fifteen years ahead in detail, but no specific action is ever taken without a restudy. The lesson is hammered home that plans must be reviewed frequently, kept up to date.

"You've got to be flexible, too," says Nettleton. "Look at the area of Middletown in which the Air Force chose to build a nuclear aircraft engine plant for United Aircraft Corporation. That immediately changed our planning for that region."

Every year, the company gets together a provisional estimate for the next three to five years. This is reviewed every quarter. Every decision is weighed against these estimates. Management then looks at a decision from the point of view of what it can afford, and how to pay for it.

Once a tentative decision is taken, a re-study is always made. It is based on the then existing traffic, the then existing costs, the then existing prospects for future growth. The plant extension engineer co-ordinates the studies, the ideas, and opinions of other departments, puts them together, and comes up with a recommendation to top management.

As the plans come close to being realized, they may edge into the area of the facilities co-ordinating committee of SNET. This, too, is headed by the plant extension engineer, but it deals more with current programs. It is supervising the expanding extended local service arrangements, for instance.

This study and planning make it possible for the utilities to meet the responsibility laid upon them by the law—to provide adequate service. It lets them plan the use of equipment, new and old, in the most efficient and economical way.

ALL the utilities agree that "you can't plan in a vacuum." They must be attuned to the needs, habits, hopes, and desires of their communities. They must also be aware of the work of all departments and the so-called state of the art in their fields—the advance of technology.

Thus, telephone engineers are familiar today with the revolution in equipment with which they deal. The simplification and miniaturization of central office equipment, the ability to pack more messages into a single cable than ever before, the expectation that microwave transmission may soon replace some cable—all that influences planning.

In power generation, too, equipment is changing. New transmission lines may carry higher voltages than ever before; steam-generating plants are reaching higher efficiency. Atomic energy is near as a practical and economic way to provide electricity.

This, too, influences planning.

What all the utilities expect to do is to have service ready when it is needed. To do that, they must decide when, where, and in what amounts it will be wanted. To guarantee against waste through having excess plants standing idle, and to strive for the reasonable profit that the American system allows, they invest in planning to make sure they will go on doing their job so that the people who depend on them can do theirs.

Telephone and Telegraph

Excise Tax Cut Urged

SPOKESMEN for the American Telephone and Telegraph Company and the United States Independent Telephone Association recently appeared before a House Ways and Means subcommittee to urge reduction in excise taxes on telephone service. Speaking for the USITA, Colonel William C. Henry, president of Northern Ohio Telephone Company, called attention to the discrimination occasioned by the excise tax on telephone service and asked for its complete removal, on both local and long-distance service.

"An examination of tax history since the round of the century," said Henry, "will show that in each instance in which excise taxes on communications have been imposed such action has been taken purely as an emergency measure and the taxes have always been repealed when the emergency was over. It has, always, up to this time, been recognized that telephone excise taxes constitute no part of a peacetime tax structure."

Henry pointed out that excise taxes imposed during the period commencing in 1940 were restrictive taxes designed to reduce the use of the affected product or services taxed, so that critical materials used in the manufacture of the product or in providing service might be diverted to purposes of war. Today, he said, there



is no need for any restriction. He added:

. . . The excise taxes on communication services are the only taxes levied upon regulated public utility services, except transportation. And even in the case of transportation, there is no tax levied upon short-haul commutation. There is no excise tax on gas, electricity, water, sewage, or heating service. We think it is a discrimination of the rankest sort to impose an excise tax on telephone service, especially since the conditions under which these taxes were imposed have ceased to exist.

In the independent branch of the telephone industry, about 80 per cent of our subscribers are residence subscribers, and in our branch of the business, operating in the small towns and rural areas as we do, the small cash income of many people is such as to make an excise tax on their necessary communication service one of great severity. In the farming and rural areas the telephone is an indispensable medium to obtain market quotations, to summon the doctor or veterinarian, and to reach the fire department.

With nearly 54 million telephones in the United States and more than 160 million local exchange conversations and 7 million long-distance calls every day of the year, it should be obvious to

PUBLIC UTILITIES FORTNIGHTLY

anyone that more people are affected by the tax on telephone calls than could possibly be affected by the tax on any other thing or service.

HENRY said the point has now been reached where the wartime pent-up demand for telephone service is lessening and the full impact of the excise tax is being felt increasingly. "The gross severity of the inequity of taxing telephone service at higher rates than nonessentials will progressively depress the normal expansion of our business and hamper us in obtaining capital for construction and continued improvement of telephone service," Henry told the committee.

Henry reminded the committee that a public utility like a telephone company has to compete in the money market with oil, manufacturing, and other utility companies, and all other businesses requiring capital. He said the excise tax tends to dry up the capital market by subtracting from the customer's spendable dollar, amounts which might otherwise be saved and invested in new capital, and also raises doubts in the minds of some investors as to whether an industry so very heavily taxed is a truly good investment.

"It should be quite apparent," Henry said, "that if the excise tax were removed, the consumer would have an increase in spendable and savable income by that amount. The government recoups a portion of this tax in other forms and would probably suffer no great loss of revenue from its repeal. The additional business generated from additional spendable income will produce additional income, and some portion of that additional income is recouped through income taxes."

Henry insisted that an everyday necessity such as telephone service should not be taxed at the same high level as unessential. "When a commodity or service

becomes an accepted household and business convenience it is not a luxury," he told the committee.

New Civil Defense Device

THE Federal Civil Defense Administration has come up with a new internal warning system that could alert Americans at home and at work in the event of an enemy attack. The new system has been demonstrated and approved generally by six midwestern electric power companies at Kansas City, Missouri.

The system, including the receiving device which is called National Emergency Alarm Repeater (NEAR), was developed by Midwest Research Institute of Kansas City under a contract from the Federal Civil Defense Administration. If and when it is perfected, NEAR could be used to solve one of the major problems of civil defense—how to alert large segments of the population, especially those beyond the range of sirens, to an impending enemy attack.

The alarm receiving device is a small plastic-covered electronic box which can be plugged into any 110-volt outlet in a home, factory, store, or office. Once installed, it would give out no sound until civil defense or other authorities gave the order to warn of approaching attack. Then brief, controlled 120-cycle signals, sent over the regular electric power network, would trigger the alarm receiver. It would buzz loudly or ring an alarm to warn the listener to turn on his radio to receive official civil defense instructions.

The device can be installed in a radio or electric clock. It can also contain an electric light which goes on when the signal is sounded, thus permitting a deaf person to see the light and be warned of an emergency. The system has been tested satisfactorily on power lines serving Mid-

TELEPHONE AND TELEGRAPH

west Research Institute without in any way disturbing the normal power transmission.

As demonstrated at Midwest for power company executives and FCDA officials, NEAR produced a noise similar to the growl of radio static. When attached to a radio, the signal automatically affects the speaker and amplifier and the alarm goes off even if the set is turned off. The warning device continues in a loud volume until it is turned off by a button on the rear of the radio.

RESULTS of the research indicate it is feasible to use the device in a national internal warning system. From a central location, it is conceivable that civil defense officials could alert a state, a group of states, or the entire nation, simply by pushing a button. Relay systems would receive, amplify, and retransmit the signal.

Midwest Research Institute officials point out the system could be used in emergencies other than enemy attack. For instance, it could warn of impending tornadoes.

It is not intended that NEAR will replace existing public warning systems, such as Conelrad Emergency radio broadcasts, sirens, horns, or whistles, FCDA officials explained. It will supplement these, and extend the coverage of a national civil defense warning.

Officials of FCDA and Midwest Research Institute said the next steps in developing NEAR will be to conduct further laboratory tests and to draw up arrangements to manufacture the warning device.

Low Rates Plague New York Telephone

THE New York Telephone Company, handicapped by low rates, has been

unable to cope with inflation, Keith S. McHugh, president of the company, told the December meeting of the New York State Chamber of Commerce. McHugh said that under the original cost theory of rate regulation his company has failed to earn its regular dividend over the past decade, even though the declared dividend rate has not been increased since 1910. The New York Public Service Commission began hearings December 17th on the company's request for a rate boost totaling \$55.4 million annually.

McHugh described the rate of earnings as a percentage of total invested capital for his company over the last ten years as not only substantially smaller than in the twenty-five years preceding, but also below the level recorded during the worst four years of the great depression. He said rate increases obtained by New York Telephone Company since 1940 were the lowest in the Bell system. They came to only 20 per cent over-all, he said, compared with an average increase of 42 per cent on intrastate rates in the other 47 states.

THE result of these conditions, McHugh said, is that from a relatively strong position financially the company has slipped to a relatively weak position. New York Telephone Company will have to raise nearly a billion dollars in new capital over the next five years, McHugh told the meeting.

This is about the same amount the company found need for over the last ten years. "To get this money, we will need credit as few companies have ever needed it before," he said. "And this means, of course, that we will have to convince the investor that we have a good future, and that he can expect safety and a good return for his dollar."



Capital Ratios—Replies To SEC Inquiry

REFERRING to comment in this department (December 6th issue) on the SEC inquiry regarding capitalization ratios, it may be of interest to review other replies which have been made, one by the New York Society of Security Analysts and one by General Public Utilities Corporation. The society's reply was prepared by the Temporary Utility Committee composed of the following members: Cecil E. Trefthen, chairman; Maurice E. Dixon, Theron W. Locke, Charles E. A. McCarthy, Jr., George F. H. Nelson, George L. Nye, George L. Perin, Lawrence T. Ryan, and Longley G. Walker. The committee concluded that, based on the society's years of experience in working with both issuers and buyers of utility securities, it considers it impracticable to establish a rigid set of investment standards and apply them universally to all utility companies, or even to groups of utilities. The letter stated:

The capital structure is, of course, only one of the measures of investment value and even if a standard could be established for a small group of companies it would soon become of little value because of the changes that are always taking place in the industry, security markets, taxes, operating costs,

Financial News and Comment

By OWEN ELY

and company service areas. One of the important things experience teaches about utility financing is that utility company managements must be allowed flexibility in their financial policies if they are to finance on the most advantageous terms. Both buyers and sellers of utility securities recognize that capital structure is an important investment factor but evaluate it along with many other qualitative and quantitative factors applicable to the securities of any utility company. These data are not alike for any two companies. The differences can readily be discerned by a look at the characteristics of the service areas, sources of revenue, operating costs, tax situations, regulatory climate, cash requirements, indenture provisions, and preferred stock agreements . . .

We believe that the competitive play of forces between the issuing utility companies, the security buyers, and the financial community is a flexible safe-

DEPARTMENT INDEX

	Page
Capital Ratios—Replies to SEC Inquiry	36
Charts—Regional Peak Loads and Capacity 1954-59	38, 40
EEI Forecasts 160 Million-kilowatt Capacity by 1959	39
Natural Gas Earnings Sustained	42
Table—Data on Electric Utility Stocks	42, 43, 44

FINANCIAL NEWS AND COMMENT

guard to sound utility capital structures. In general, the utility companies, to meet their expansion programs, are continually offering new securities, which to be sold must meet the competition of other available investments, and consequently must be tailored to the widely varying needs and standards of different classes of investors.

THE 23-page reply of General Public Utilities, signed by Vice President Busch, reflected the same point of view. The company feels rather strongly that for the SEC to issue a statement of policy with respect to capitalization ratios would increase the rigidity of the financing programs of electric utilities subject to the act. The commission has no responsibility for producing earnings to support the additional capital requirements of an electric utility, and also does not have to correlate security regulation and rate-making policies, hence it is not in a position to contribute very effectively toward guiding the capital-raising programs of utility subsidiaries of holding companies.

The SEC has under its jurisdiction under the Holding Company Act only about one-sixth of the combined electric and gas utility industry, as measured by assets; if the telephone, transit, and water stocks should be included, the ratio would be still smaller. There is also considerable overlapping with the state commissions, in the regulation of new security issues. To avoid this duplication the commission might well exercise its authority under § 6 (b) of the act and grant a general exemption of those security issues which must be approved by state commissions, thus limiting its supervision to the security issues of (1) the holding companies themselves and (2) holding company subsidiaries in the eight states where state commission approval is not required.

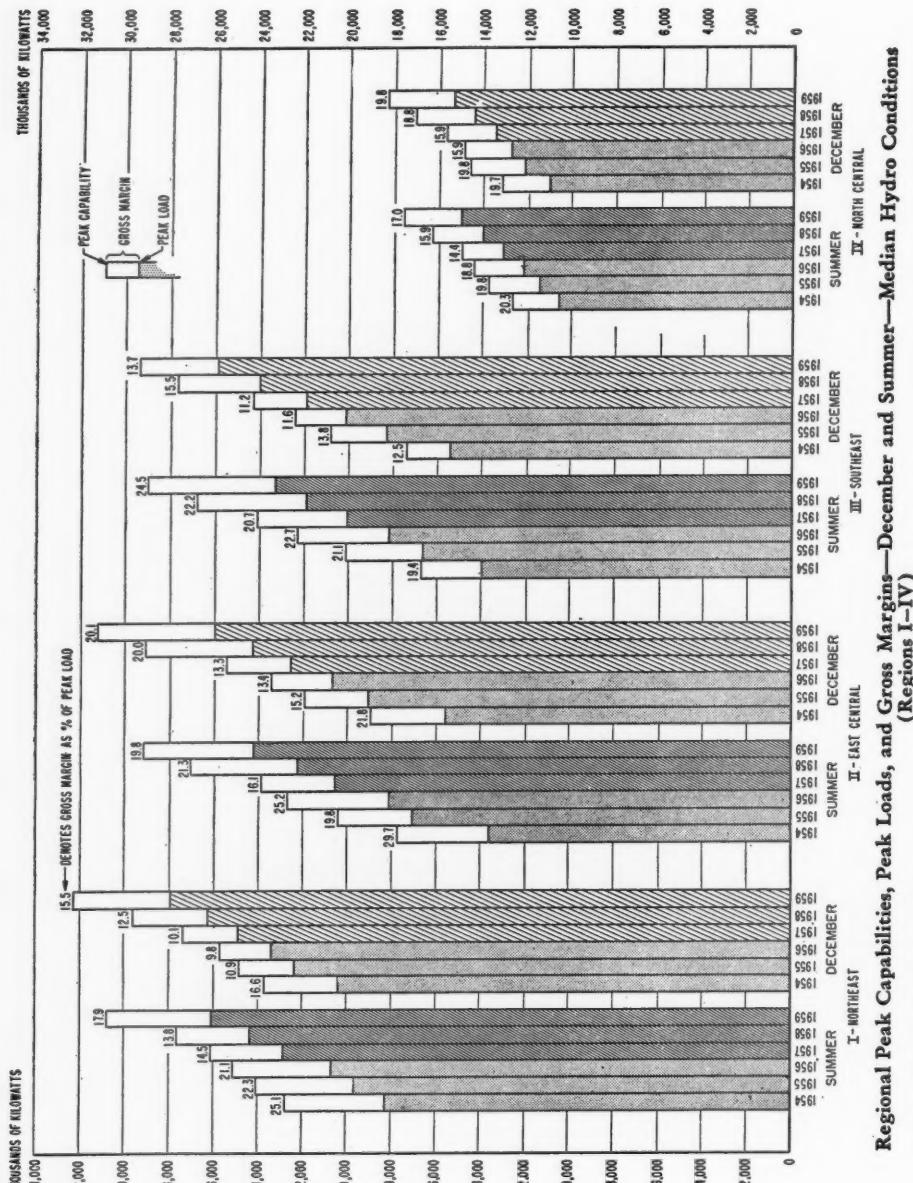
Mr. Busch indicates the fears of the

GPU management that any declared SEC policy regarding capital ratios would tend to become a "rigid criterion" for the future. In fact a relatively rigid policy has already been indicated in the commission's decisions, he thinks. The principal exceptions are cases decided prior to 1948 and a few special cases. Regarding holding company capitalization, the SEC has paid little attention to the impact of the trend of earnings available for common stock, although this should be considered one of the most important factors, since it directly affects a holding company's ability to raise additional equity capital.

"It has been our experience," said Mr. Busch, "that the thrust of the commission's supervision of utility company financings is to afford unnecessary and, accordingly, unwanted protection to the purchasers of senior securities (who today are largely confined to institutional investors) at the expense of the investor in common stocks of the holding companies. . . . (The) knowledge that . . . senior security offerings must be made acceptable to institutional investors, is a much more effective and much more flexible deterrent against any possible tendency by management in the direction of unsound capital structures than any policy that the commission is in a position to invoke."

MR. BUSCH pointed out that in regulating the capital structures of holding companies the SEC has, in some cases, required burdensome indenture provisions such as those which (a) freeze qualifying property additions against the issue of bonds, (b) limit the character of qualifying property additions, (c) prescribe heavy sinking-fund and renewal and replacement fund requirements, and (d) impose rigid current earnings coverage tests, etc. As an illustration the SEC insisted on

PUBLIC UTILITIES FORTNIGHTLY



FINANCIAL NEWS AND COMMENT

certain sinking-fund provisions in the case of Jersey Central Power & Light ten years ago when the equity was thin, and these still apply even though the equity ratio had been greatly improved. A finance program should take into account not merely capital ratios but should also be geared to the forecasting of earnings, load growth, area development, and similar factors.

Turning to the specific questions probed by the SEC, Busch suggested that for routine growth of an electric utility a ratio setup of 60-15-25 might be appropriate, or 65-35 if there is no preferred stock, although these should be subject to modification in the case of unusual growth and load characteristics—even though this does not involve supply of power to a governmental agency such as AEC. When two utilities join to build a major hydroelectric or nuclear generating plant, the capital ratios should be flexible enough to permit the parent companies time to absorb construction costs without adverse effects on their equity earnings, until the new facility has become a normal implement of the older facilities.

ONE difficulty in any attempt to set up a maximum debt ratio is the wide differences in earning power and regulation in different areas, with variations in the rate base as to original cost, fair value, etc. Without intimate knowledge of the regulatory policy of state commissions and other local agencies, it is difficult to know the best setup.

Referring to any possible change in capital ratio limits which should be made to adjust for the existence of plant account in excess of original cost (Account 100.5), GPU held that no uniform correlation can be made between net utility plant per books and the debt ratio, since in some states the excess amounts are permitted to remain in the rate base, while in others they are

not allowed or their status has not yet been determined.

While GPU favors flexibility for the operating utility companies within the holding company system, it suggested that under normal conditions consolidated system capitalization might be limited to 60 per cent mortgage debt, while common stock equity should be at least 30 per cent. GPU saw no necessity to adjust these limits in the event there is any excess cost to the holding company over the underlying book values of subsidiaries; capital ratios should be supported primarily by long-term earning power.

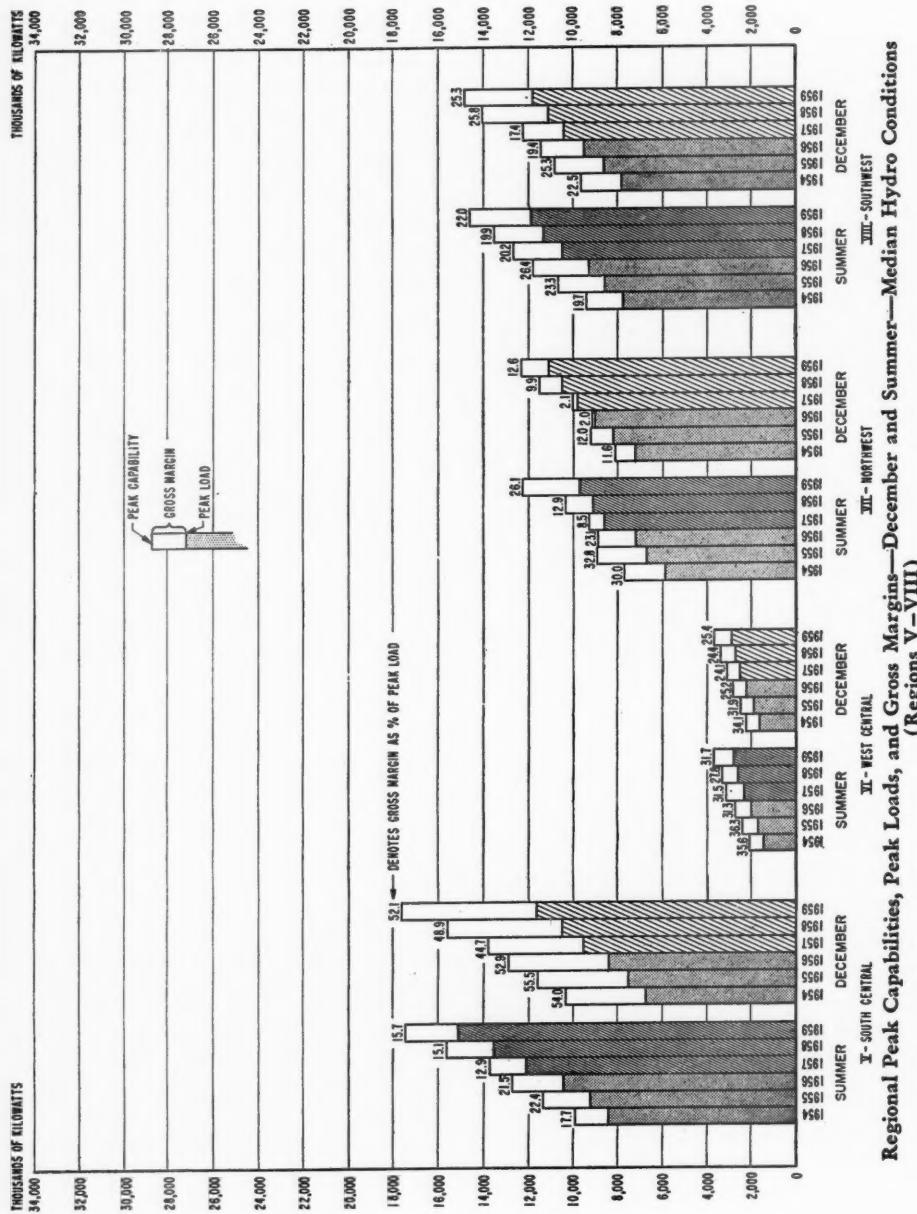
Regarding a possible limit on the amount of notes payable due within one year, GPU felt that under normal conditions this might be limited to about 10 per cent of total capitalization, except under special conditions—but here again flexibility is necessary.

Any appropriate capital ratios at any particular time, the GPU letter stated, can only be gauged on the basis of detailed knowledge of such factors as the character of the area served, the rate of growth, the degree of load diversification, local policies as to rate regulation, future capacity requirements, the effect of a particular program on the trend of earnings, and many similar factors which cannot be expressed quantitatively.

EEI Forecasts 160 Million-Kilowatt Capacity by 1959

THE new (October) semiannual electric power survey prepared by the Edison Electric Institute indicates that the difficulties abroad and the higher cost of financing have not retarded the construction plans of the electric utility industry. On the other hand, the four-year construction program has been stepped up about 16 per cent since the previous forecast made

PUBLIC UTILITIES FORTNIGHTLY



JANUARY 3, 1957

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Source: Edison Electric Institute

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FINANCIAL NEWS AND COMMENT

last April. The earlier survey anticipated an increase in capacity for electric power systems of the United States from 116 million kilowatts in 1955 to 154 million kilowatts at the end of 1959, while the latter figure is now projected at 160 million. The 1959 peak load is now expected to be 132.5 million kilowatts compared with the earlier estimate of 130.6 million, an increase of only 1.9 million kilowatts versus the anticipated gain of 6 million in capacity.

Thus the margin of capacity by 1959 will be about 20.5 per cent as compared with the earlier estimate of 18.1 per cent. It is not clear why the industry considers it necessary to step up the reserve margin, in view of increased interconnection and power pooling such as the recently announced program to pool power resources in several eastern states and the enlargement of the Pacific Northwest Power Pool.

The forecasts, which are reflected in the two charts (pages 38 and 40), indicate that the present rapid growth of the industry (due partly to AEC requirements) will taper off somewhat. The estimated gains in electric output are as follows:

	Percentage Gain over Preceding Year				
	1955	1956	1957	1958	1959
Northeast	10	6	6	6	7
East Central	27	14	10	8	7
Southeast	23	12	9	9	6
No. Central	10	7	6	6	6
So. Central	10	14	12	12	11
West Central	17	13	16	11	9
North West	15	9	10	6	5
Eastern Div.	15	12	8	10	9
Western Div.	15	9	11	5	5
South West	10	9	11	7	6
U. S.	16	10	9	8	7

EXCESS capacity this year is estimated at about 15.5 per cent, or about 14 per cent with adverse hydro conditions. The latter would not affect reserve margins appreciably except in the western division of the Pacific Northwest where reserves are already low. Following are the

estimated reserve margins for that area:

	Median Hydro	Adverse Hydro
1956	2%	D 10
1957	2	12
1958	5	9
1959	9	7

However, even under adverse hydro conditions, the report states that it should be possible to carry all firm loads in this area in a satisfactory manner, though *interruptible* loads (mostly aluminum and other heavy industries) would have to be curtailed. Some such curtailment was announced recently because of poor water conditions. There are a few other U. S. areas in which local situations may be less favorable than would be indicated by the regional averages, but these situations are few and no difficulties seem apt to arise, according to the survey.

The current national reserve of 15.5 per cent compares with the earlier estimate of 16.8 per cent because 1956 construction is almost one million kilowatts less than anticipated, due largely to the prolonged strike at the Westinghouse plants. It is estimated that the accumulated delays in the program will be made up by the end of 1957.

THE program includes seven full-scale atomic power projects for which the generating equipment on order totals approximately a million kilowatts. Other atomic power projects under negotiation, but not considered a part of the scheduled expansion program because major equipment is not yet on order, total over 300,000 kilowatts.

Orders for heavy power equipment continue at a high level, with scheduled production in some cases exceeding past output records. The trend in thermal generating equipment continues in the direction of larger individual units, the largest machines now on order being rated at 450,000 kilowatts.

PUBLIC UTILITIES FORTNIGHTLY

The plans of the electric utilities for expansion are in line with those of industry in general. According to the figures compiled by the SEC and the Commerce Department, business expects to spend \$8.7 billion in the first quarter of 1957 compared with \$7.5 billion in the first quarter this year, an increase of nearly 17 per cent. The public utilities (which would include gas and other subdivisions of the industry in addition to the electric utilities) plan to spend nearly \$1.2 billion in the first quarter of next year compared with \$936 million, a gain of 24 per cent; this probably reflects in part conditions resulting from the Westinghouse strike.

Natural Gas Earnings Gains Sustained

EARNINGS of the natural gas pipeline companies have been well sustained this year. Based on the monthly reports of thirty-six companies as reported by the Federal Power Commission, results for

the twelve months ended September 30th may be summarized as follows:

The number of ultimate customers increased nearly 4 per cent during the twelve months, and usage about 8 per cent, with a resulting increase in sales (cubic feet) of nearly 12 per cent. With the unit price per cubic foot up about 5 per cent, revenues gained 16 per cent. The cost of purchased gas increased 15 per cent (while cubic feet purchased gained 11 per cent), and other expenses were up in about the same proportion. Depreciation, depletion, and amortization gained only 9 per cent, but taxes were up 16 per cent. Interest on construction was sharply higher, reflecting the larger construction program, and this factor along with decreases in miscellaneous items reduced the gain in fixed charges to only 2 per cent. As a result net income increased 21 per cent. Net gas utility plant increased 8 per cent.

Results for the month of September showed a 20 per cent increase in cost of purchased gas.

DATA ON ELECTRIC UTILITY STOCKS

Rev. (Mill.)		12/12/56		Divid. Rate	Recent Share Earnings	% In- crease 1951-55	In. Sh. Earns.	Price/ Earns. Ratio	Div. Pay- out	Approx. Common Stock Equity
		Price About	Approx. Yield							
\$258	S American G. & E.	38	\$1.44m	3.8%	\$2.01Se*	4%	9%	18.9%	72%	34%
39	O Arizona Pub. Serv.	22	1.12	5.1	1.74Oc	26	9	12.6	64	31
10	O Arkansas Mo. Power	23	1.24c	5.4	1.95Se	18	8	11.8	64	30
27	S Atlantic City Elec.	27	1.30	4.8	1.59Oc	5	10	16.9	82	27
118	S Baltimore G. & E.	32	1.60	5.0	2.26Se	10	5	14.2	71	41
6	O Bangor Hydro-Elec.	33	1.90	5.8	2.59Se	23	3	12.7	73	31
5	O Black Hills P. & L.	23	1.40	6.1	2.06Oc	D5	3	11.2	68	27
91	S Boston Edison	49	2.80	5.7	3.40Ap	NC	2	14.4	83	53
19	A Calif. Elec. Power	14	.76	5.4	.94Se	8	17	14.9	81	35
17	O Calif. Oreg. Power	31	1.60	5.2	2.22Au	10	4	14.0	72	37
7	O Calif. Pac. Util.	27	1.50	5.6	2.24Oc	2	5	12.1	67	29
58	S Carolina P. & L.	23	1.10	4.8	1.60Oc	D2	4	14.1	70	37
26	S Cent. Hudson G. & E.	16	.80	5.0	1.11Se	7	10	14.4	72	33
19	O Cent. Ill. E. & G.	30	1.60	5.3	2.35Se	16	8	12.8	68	30
33	S Cent. Ill. Light	54	2.60	4.8	4.06Oc	23	8	13.3	66	41
50	S Cent. Ill. P. S.	30	1.60	5.3	2.44Se	7	17	12.3	66	35
11	O Cent. Louisiana Elec.	32	1.60	5.0	2.10Se	21	6	15.2	76	30
33	O Cent. Maine Power	22	1.40	6.4	1.68Oc	D9	7	13.1	83	33
114	S Cent. & South West	35	1.60	4.6	2.29Se	14	13	15.3	70	36
11	O Cent. Vermont P. S.	16	1.00	6.3	1.22Se	D7	2	13.2	83	28
108	S Cincinnati G. & E.	26	1.20f	4.6	2.09Se	17	8	12.4	57	39
6	O Citizens Util. "B"	13½	.90a	6.7a	1.11Se	2	11	12.2	81	40
104	S Cleve. Elec. Illum.	40	1.60	4.0	2.61Se	14	9	15.3	61	47
4	O Colo. Cent. Power	25	1.20	4.8	1.74Se	11	5	14.4	69	24
45	S Columbus & S. O. E.	29	1.60	5.5	2.16Se	D6	5	13.4	74	37

FINANCIAL NEWS AND COMMENT

Rev. (Mill.)	(Continued)	12/12/56	Divi- dend Rate	Approx. Yield	Recent Share Earnings	% In- crease 1951-55	Aver. Incr. In. Sh. Earns.	Price- Earns. Ratio	Div. Pay- out	Aprox. Common Stock Equity
336	S Commonwealth Edison	40	2.00	5.0	2.72Se	D4	9	14.7	71	47
10	A Community Pub. Serv.	25	1.20	4.8	1.80Se	1	18	13.9	67	51
2	O Concord Elec.	44	2.40	5.5	2.71De	3	2	16.2	89	61
65	O Connecticut L. & P.	19	1.00	5.3	1.31Oc	20	4	14.5	76	33
21	O Connecticut Power	41	2.25	5.5	2.55Se	18	5	16.1	88	42
494	S Consol. Edison	44	2.40	5.5	3.14Se	2	10	14.0	76	41
189	S Consumers Power	44	2.20	5.0	3.31Oc	5	5	13.3	66	41
71	S Dayton P. & L.	49	2.40	4.9	3.75Se	16	4	13.1	64	38
34	S Delaware P. & L.	44	1.60	3.6	2.35Se	5	10	18.7	68	32
220	S Detroit Edison	38	2.00	5.3	2.26Oc	D6	11	16.8	88	42
120	A Duke Power	29	1.20	4.1	1.84Se	8	22	15.8	65	54
89	S Duquesne Light	35	2.00	5.7	2.45Se	9	4	14.3	82	36
27	O Eastern Util. Assoc.	35	2.20	6.3	2.61Oc	6	0	13.4	84	36
2	O Edison Sault Elec.	16	.80	5.0	1.13Se	4	24	14.2	71	40
10	O El Paso Elec.	43	2.00	4.7	2.61Se	13	8	16.5	77	39
11	S Empire Dist. Elec.	30	1.80	6.0	2.27Se	11	1	13.2	79	30
4	O Fitchburg G. & E.	53	3.00	5.7	3.52De	8	3	15.1	85	55
43	S Florida Power Corp.	49	1.80	3.7	2.80Se	30	19	15.5	64	34
93	S Florida P. & L.	46	1.28	2.8	2.40Se	25	16	19.2	53	40
163	S General Pub. Util.	35	1.90	5.4	3.02Se	15	12	11.6	63	39
6	O Green Mt. Power	16	1.00	6.3	1.20Se	4	7	13.3	83	37
51	S Gulf States Util.	35	1.60	4.6	2.17Oc	2	17	16.1	74	31
21	A Hartford E. L.	58	2.88	5.0	4.46Se	14	12	13.0	65	47
5	O Haverhill Elec.	40	2.35	5.9	2.62De	34	—	15.3	82	100
18	O Hawaiian Elec.	43	2.50g	5.8	3.65Se	24	—	11.8	67	37
66	S Houston L. & P.	52	1.40g	2.7	2.89Oc	20	20	18.0	48	42
8	O Husonatic P. S.	23	1.50	6.5	1.41De	19	0	16.3	106	54
25	S Idaho Power	30	1.20	4.0	2.11Oc	NC	7	14.2	57	35
78	S Illinois Power	55	3.00	5.5	3.97Oc	20	6	13.9	76	35
40	S Indianapolis P. & L.	29	1.50	5.2	2.07Se	8	2	14.0	72	38
19	S Interstate Power	14	.80	5.7	1.05Se	4	6	13.3	76	31
30	O Iowa Elec. L. & P.	30	1.50	5.0	2.28Oc	18	10	13.2	66	31
31	S Iowa-Ill. G. & E.	31	1.80	5.5	2.45Se	6	2	12.7	73	40
35	S Iowa Power & Lt.	24	1.40	5.8	1.97Se	—	1	12.2	71	35
30	O Iowa Pub. Serv.	16	.80	5.0	1.11Oc	22	3	14.4	72	33
13	O Iowa Southern Util.	22	1.28	5.8	1.82Oc	12	7	12.1	70	36
56	S Kansas City P. & L.	38	2.00	5.3	2.77Oc	14	8	13.7	72	35
27	S Kansas G. & E.	26	1.32	5.1	2.14Se	12	9	12.2	62	26
40	S Kansas Pr. & Lt.	23	1.30	5.7	1.96Se	24	9	11.7	66	27
37	O Kentucky Util.	25	1.28	5.1	2.05Se	D2	9	12.2	62	35
7	O Lake Superior D. P.	24	1.20	5.0	1.69Se	13	4	14.2	71	38
6	O Lawrence Electric	29	1.75	6.0	1.87De	34	D	15.5	94	62
17	S Long Island Litg.	21	1.10	5.2	1.55Se	20	4	13.5	71	34
52	S Louisville G. & E.	57	2.20	3.9	3.90Se	1	4	14.6	56	35
7	O Lowell Elec. Lt.	58	3.00	5.2	3.64De	19	D	15.9	82	59
9	O Lynn G. & E.	32	1.60	5.0	2.03De	1	8	15.8	79	76
8	O Madison G. & E.	41	1.80	4.4	4.04Jy	NC	10	10.1	45	47
41	A Maine Pub. Serv.	15	1.08	7.2	1.03Oc	D21	3	14.6	105	31
5	O Michigan G. & E.	49	1.60b	6.3b	4.07Se	16	13	12.0	37	35
27	S Middle South Util.	30	1.60	5.3	2.11Oc	10	6	14.2	76	35
53	S Minnesota P. & L.	26	1.40	5.4	2.07Se	7	8	12.6	68	34
35	O Miss. Valley P. S.	30	1.40j	4.7	2.22Oc	D10	3	13.5	63	31
37	O Missouri Pub. Serv.	14	.72h	5.1	1.06Oc	28	19	13.2	68	29
5	O Missouri Util.	27	1.36	5.0	1.88Se	8	3	14.4	72	36
37	S Montana Power	42	1.80	4.3	3.12Oc	7	5	13.5	58	36
130	S New England Elec.	17	1.00	5.9	1.24Se	2	0	13.7	81	33
40	O New England G. & E.	18	1.05	5.8	1.52Oc	12	5	11.8	69	40
41	O New Orleans P. S.	46	2.25	4.9	2.53Oc	D5	0	18.2	89	40
35	O Newport Elec.	19	1.00	5.3	1.40Ja	16	0	13.6	71	34
30	S N. Y. State E. & G.	36	2.00	5.6	2.91Oc	D4	6	12.4	69	38
210	S Niagara Mohawk Pr.	29	1.80	6.2	2.22Se	—	6	13.1	81	34
75	O Northern Ind. P. S.	37	1.92	5.2	2.86Se	4	6	12.9	67	33
118	S Nor. States Power	17	.90	5.3	1.20Se	8	9	14.2	75	33
9	O Northwestern P. S.	16	1.00	6.3	1.35Se	D3	4	11.9	74	25
123	S Ohio Edison	50	2.64	5.3	3.75Oc	9	9	13.3	70	38
40	S Oklahoma G. & E.	38	1.70	4.5	2.45Oc	9	10	15.3	70	30
15	O Otter Tail Pr.	27	1.60	5.9	2.26Se	11	9	11.9	71	34

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PUBLIC UTILITIES FORTNIGHTLY

<i>Rev. (Mill.)</i>	<i>(Continued)</i>	<i>12/12/56 Price About</i>	<i>Divi- dend Rate</i>	<i>Approx. Yield</i>	<i>Recent Share Earnings</i>	<i>% In- crease</i>	<i>Aver. Incr. In. Sh. Earns. 1951-55</i>	<i>Price- Earns. Ratio</i>	<i>Div. Pay- out</i>	<i>Approx. Common Stock Equity</i>
443 S	Pacific G. & E.	50	2.40	4.8	3.51Je	10	16	14.2	68	33
44 O	Pacific P. & L.	29	1.60	5.5	1.98Oc	NC	4	14.6	81	28
123 S	Penn Power & Lt.	44	2.40	5.5	3.46Oc	12	9	12.7	69	29
210 S	Phila. Elec.	36	1.80	5.0	2.53Se	9	5	14.2	71	40
32 O	Portland Gen. Elec.	22	1.20	5.5	1.67Jy	3	6	13.2	72	39
58 S	Potomac Elec. Pr.	21	1.10	5.2	1.50Se	16	7	14.0	73	40
77 S	Pub. Serv. of Colo.	38	1.80i	4.7	2.83Se	11	7	13.4	64	38
273 S	Pub. Serv. E. & G.	31	1.80	5.8	2.37Se	8	2	13.1	76	37
67 S	Pub. Serv. of Ind.	36	2.00	5.6	2.45Oc	2	3	14.7	82	33
26 O	Pub. Serv. of N. H.	16	1.00	6.3	1.23Oc	—	13	13.0	81	36
11 O	Pub. Serv. of N. M.	13	.68	5.2	1.12Se	18	4	11.6	61	33
23 S	Puget Sound P. & L.	26	1.28	4.9	1.62Se	12	10	16.0	79	56
52 S	Rochester G. & E.	28	1.60	5.7	2.22Se	—	8	12.6	72	36
17 O	Rockland L. & P.	17	.70	4.1	.97De	20	11	17.5	72	29
8 S	St. Joseph L. & P.	23	1.40	6.1	1.79Se	7	7	12.8	78	40
45 S	San Diego G. & E.	21	.96	4.6	1.52Se	40	2	13.8	63	40
8 O	Savannah E. P.	40	1.68	4.2	2.76Au	30	5	14.5	61	28
8 O	Sierra Pacific Pr.	21	1.20	5.7	1.48Se	—	14	14.2	81	28
154 S	So. Calif. Edison	47	2.40	5.1	3.20Se	1	3	14.7	75	36
38 S	So. Carolina E. & G.	19	1.00	5.3	1.42Se	6	40	13.4	70	29
6 O	Southern Colo. Pr.	14	.70	5.0	1.24Au	D1	11	11.3	56	37
210 S	Southern Co.	20	1.00	5.0	1.51Oc	7	7	13.2	66	32
16 S	So. Indiana G. & E.	30	1.60	5.3	1.90Oc	D16	5	15.8	84	33
5 O	So. Nevada Power	16	1.00	6.3	1.39Se	D5	41	11.5	72	34
1 O	Southern Utah Power	16	1.00	6.3	1.42Oc	61	D	11.3	70	38
3 O	Southwestern E. S.	19	1.08	5.7	1.68Au	5	4	11.3	64	27
39 S	Southwestern P. S.	27	1.40	5.2	1.64Au	7	4	16.5	85	30
21 A	Tampa Elec.	29	1.20	4.1	1.61Se	12	10	18.0	75	42
127 S	Texas Utilities	37	1.44	3.9	2.25Se	12	13	16.4	64	38
35 S	Toledo Edison	13½	.70	5.2	1.02Se	D4	5	13.2	69	30
12 O	Tucson G. E. L. & P.	29	1.20	4.1	2.01Se	21	10	14.4	60	33
119 S	Union Elec. of Mo.	26	1.52	5.8	1.75Je	4	13	14.9	87	37
30 O	United Illuminating	27	1.30	4.8	1.61De	3	9	16.8	81	51
5 O	Upper Peninsula Pr.	29	1.60	5.5	2.02Se	D8	14	14.4	79	36
38 S	Utah Power & Lt.	25	1.10	4.4	1.70Oc	12	8	14.7	65	42
106 S	Virginia E. & P.	43	1.80	4.2	2.72Oc	7	13	15.8	66	34
24 S	Wash. Water Power	36	1.88	5.2	2.23Se	12	14	16.1	84	44
127 S	West Penn Elec.	27	1.50	5.6	2.11Se	5	10	12.8	71	29
64 O	West Penn Power	48	2.40	5.0	3.24Se	1	13	14.8	74	33
11 O	Western Lt. & Tel.	33	2.00	6.1	3.03Se	13	7	10.9	66	31
24 O	Western Mass. Cos.	41	2.20	5.4	3.08Se	1	12	13.3	71	52
95 S	Wisc. El. Pr. (Cons.)	32	1.60	5.0	2.31Se	D5	16	13.9	69	39
37 O	Wisconsin P. & L.	25	1.28	5.1	1.80Se	5	4	13.9	71	35
34 S	Wisconsin P. S.	22	1.20	5.5	1.76My	NC	7	12.5	68	35
Averages		5.2%			8%		14.0		72%	

Foreign Companies

188 S	Amer. & Foreign Pr.	14	\$.80	5.7%	\$2.10Je	8%	2%	6.7%	38%	46%
139 A	Brazilian Trac.	7½	.751	6.7	1.18De	D7	D	6.4	42	72
63 A	British Columbia Pr.	43	1.20	2.8	2.05De	37	27	21.0	59	27
16 A	Gatineau Power	29	1.40	4.8	2.06De	5	15	14.1	68	30
11 A	Quebec Power	27	1.20	4.4	1.73De	11	12	15.6	69	48
45 A	Shawinigan Wtr. & Pr.	84	1.80	2.1	3.48De	30	22	24.1	52	35

A—American Stock Exchange. B—Boston Exchange. O—Over-counter or out-of-town exchange. S—New York Stock Exchange. Ja—January; F—February; Ma—March; Ap—April; My—May; Je—June; Jy—July; Au—August; Se—September; Oc—October; N—November; De—December. *Based on average number of shares. a—Estimated annual rate. The "A" stock receives stock dividends. b—Also 3 per cent stock dividend December 31, 1956, which is included in the yield. c—Also 2 per cent stock dividend January 10, 1956. f—Also 5 per cent stock dividend August 15, 1956. h—Also stock dividend of one share for each 200 held September 12, 1956. i—Also 10 per cent stock dividend November 16, 1956. j—Also 10 per cent stock dividend August 31, 1956. k—Also 5 per cent stock dividend December 17, 1956. l—Also 5 per cent stock dividend December 28, 1956. m—Also 2 per cent stock dividend January 10, 1956; 3-for-2 split June 15, 1956.



What Others Think

Investment Bankers Look at Utility Problems

THE utility industry will find much food for thought in committee reports to the 45th annual convention of the Investment Bankers Association of America which met in Hollywood, Florida, November 25th to 30th. While justly praising the record growth in the electric utility, gas, and telephone industries, the association's public utilities securities committee sees trouble ahead if the utilities fail to keep pace with the ever-growing demand for their services.

Utility Earnings

Summarizing the record of the recent past, the securities committee report notes that in the electric utility industry, kilowatt output of energy has doubled since 1949 and the 12-month period ended August shows an advance of 13.7 per cent over the preceding similar period. Installed generating capacity as of August 31st was 118,010,526 kilowatts—a 7.3 per cent increase over August 31, 1955. New money raised from the public in the first nine months of this year exceeded \$1.1 billion. This compares with \$1.3 billion for the entire year 1955 and \$1.7 billion for 1954. Total electric construction requirements are expected to jump from \$3,782,000,000 in 1956 to \$11,268,000,000 in 1970.

Expansion in the gas industry has been equally impressive, the report states. The industry continues to add more than 800,000 new customers a year and now serves in excess of 29 million. Revenues totaled nearly \$5.3 billion in 1955, an increase of 15.1 per cent over 1954, and for the twelve months ended June 30, 1956, a new high of \$5.75 billion was recorded for an increase of 17.3 per cent over the comparable period last year. Construction expenditures in the gas distribution and transmission industry for the entire year 1956 are estimated at a new high of \$1.6 billion by the American Gas Association, the committee reported. This is double the annual average of 1946-50 and compares with reported expenditures of \$1.3 billion in 1955 and \$1 billion in 1954. Capital expenditures are expected to aggregate \$5.6 billion over the next three years. Financing in 1955 amounted to \$1.4 billion in new securities as compared with \$2.4 billion in 1954.

CONTINUING growth is also recorded for the telephone industry. The committee reported that at the end of 1955, there were 8,461,000 telephones in service of the independent companies and 48,029,000 in the Bell system. This marks a gain of 6.5 per cent during the year and 78 per

PUBLIC UTILITIES FORTNIGHTLY

cent for the last ten years. Problems of financing modernization are blamed for a further reduction in the number of independents with 4,714 still operating on December 31, 1955, as compared with 5,983 at the same date in 1946. Total investment in telephone plant, the report continues, was up \$1.5 billion in the year and stood at \$17.8 billion at year end. Operating revenues totaled \$6 billion for 1955, an increase of 10.8 per cent over the preceding year. Among the independents, 406 of those reporting raised \$137 million last year while the American Telephone and Telegraph Company and its subsidiaries raised \$1.2 billion. While future estimates were unavailable, the committee sees no reason to expect any slackening in growth.

"Without burdening our report further," the committee commented, "we believe the point will be accepted that demands for utility service will continue to grow apace and needs for financing will prevail." In order to influence the development of a satisfactory investment climate for utility services, the committee has been working on closer contacts with utility managements and on expression of its views on legislation, regulation, and tax matters. The purpose has been to use its influence as a representative of the investment community to improve the market for utility securities necessary to meet the capital demands of the utility industry.

ONE illustration of the committee's efforts is the letter sent by the committee to all chairmen of public utility commissions.

"We are finding that many individual investors are becoming apathetic about public utility common stocks as vehicles of investment," the letter pointed out to the commission chairmen. "On the other hand," it continued, "institutional inves-

tors have been more important factors in the utility equity market." Information obtained from gas and electric companies, while far from uniform, reveals "a definite and general (although not universal) trend toward lower percentages of total common stock ownership in the hands of individuals and a higher percentage in the hands of institutions," the commissioners were told.

The conclusion to be drawn from this interesting phenomenon, said the committee's letter, is that more and more investors are seeking common stocks which offer possibilities of capital gain. There is on the part of an increasing number of investors, less interest in current income. This attitude can be easily explained by the federal income tax structure permitting retention of a greater percentage of capital gain income than dividend income; there is also the factor of the continued decline in the purchasing power of the dollar which leads investors to those securities promising an increase in value at least sufficient to offset the attrition of inflation.

"**M**ANY investors feel that public utility stocks fail to offer protection against inflationary trends and shy away from them," the utility commission chairmen were told. "There is increasing scrutiny of the ability of individual utility companies to show at least modest increase in earnings and dividends from time to time. Stocks which have good records in this regard are, generally speaking, faring better in the market than those whose operations are characterized by stability and whose earnings and dividends have remained relatively static. The letter continues:

The question might be raised as to why worry about loss of private investor interest so long as the slack is being

WHAT OTHERS THINK

taken up by institutions. Unfortunately, the programs of the institutions are not consistent nor continuing. Rather, they are subject to change with variations in many unrelated factors and a course being generally pursued today may be altered or abandoned tomorrow.

Furthermore, many institutions which formerly bought only or mainly senior securities have been large buyers of common stocks in recent years. In building common stock portfolios, some of these new buyers have been attracted by the more conservative types of stocks, utilities among them. As these institutions become more experienced with handling common stock portfolios it is entirely possible that they, too, will become more interested in the capital gain type of investment. . . . We feel that if the utility companies are going to raise successfully the hundreds of millions of dollars in common stock money which construction programs will require in the years ahead, sympathetic consideration on the part of regulatory authorities will be required.

THE committee report to the association's convention underscores the dangers inherent in a failure on the part of the utilities to raise the capital necessary to meet future needs. The report states:

It goes without saying, that should privately owned utilities be unable to meet the demands for service, the proponents of public power will have every excuse to step into the vacuum. Despite four years of the present administration, evidence of further encroachment of the state in the power field can be found. The September issue of the Guaranty Trust Company of New York's *Survey* pointed up this problem

in detail. The writer reports that "in the twenty years from 1933 to 1953, 'public' power increased from 6 to 20 per cent of the country's total output of electric energy, and federally produced power alone rose from less than one-half of one per cent to 13 per cent, with a further rise to 16 per cent in prospect by 1960." . . . We submit that "Creeping Socialism" is scarcely halted and certainly in the field of electric power remains a severe threat to the private enterprise system. Default on the part of the investor-owned utility industry to expand because of inability to raise capital can only encourage the public power advocates to step in.

Atomic Energy

DEVELOPMENTS in the atomic energy field were reported to the convention by the association's nuclear industry committee. Among the positive accomplishments the report listed the building of 82 atomic reactors of all types and sizes, with 127 more already under construction or in the planning stage. Of the total 209, more than one-third are power-producing types. The civilian power program now embraces 30 reactors, 18 of which will provide commercial power. These 18 plants, representing an investment of over \$650 million, will go into operation between 1957 and 1962 and provide a total generating capability of 1.2 million kilowatts. The report noted that six of the 18 plants, representing a total investment of some \$200 million, will be built by industry without dependence on the federal government for any direct subsidy. The first large-scale nuclear power plant for civilian use exclusively in the United States will go into operation at Shippingport, Pennsylvania, in 1957.

The committee report dwelt at length on the implications of the Gore Bill for

PUBLIC UTILITIES FORTNIGHTLY

the public utility industry. The bill, defeated by a narrow margin in the last session of Congress, reflected a growing body of opinion that the nuclear power program is inadequate. Said the report:

One basic objection to the Gore Bill which, perhaps, has received too little attention is the potential involvement of the Atomic Energy Commission in the public power controversy. For some time to come the operating costs of a nuclear power plant will, necessarily, be determined by judgment as to the value or expense of by-products. If the AEC is placed in the position of establishing wholesale prices for nuclear-generated power, it would seem inevitable that the basis of its charges will come under attack by the supporters of both public and private power. Such controversy can become so vitriolic as to overshadow the more important activities of the AEC and impair, seriously, the effectiveness of that organization in its primary mission of maintaining the leadership of the United States in the advancement of nuclear research and development.

In this connection the report noted the remarks of Willis Gale, president of the Commonwealth Edison Company, before the Atomic Industrial Forum meeting last September. It was Gale's view that while some of the advocates of the building of government-owned reactors were perhaps motivated by the desire to further government power, there were others who were motivated by the sincere belief that it would be in the national interest to accelerate the atomic energy program beyond the ability or willingness of private industry to take all the risks. The report applauded Gale's suggestion that if Congress believes the public interest requires an accelerated program, it should

declare so as a matter of policy, specifying the extent of the expansion and appropriating the necessary funds.

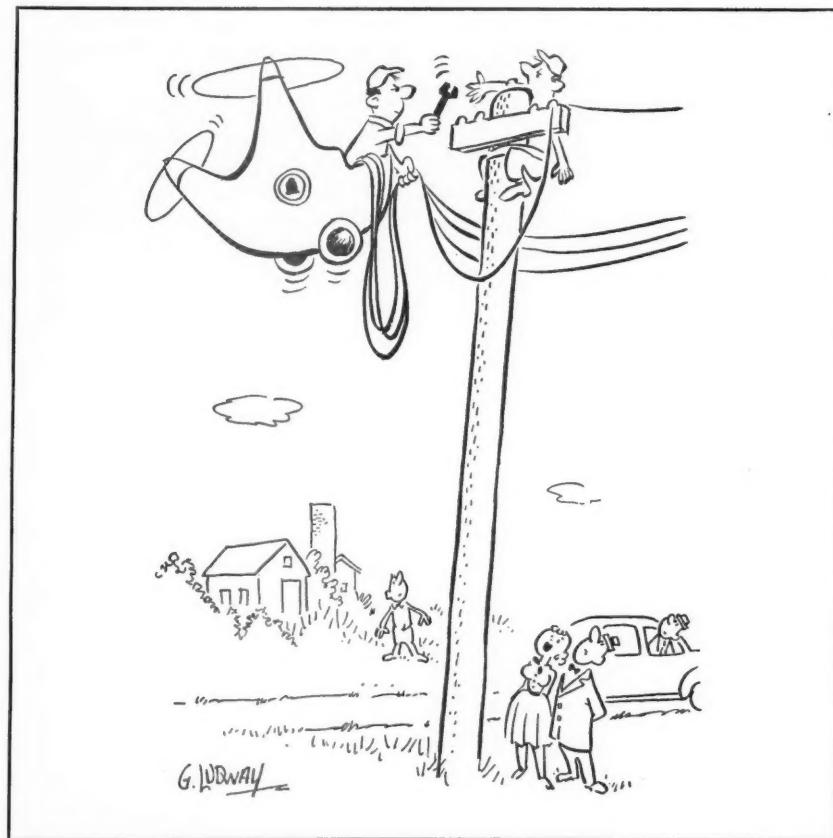
Gale also suggested, as a compromise, that the number of government dollars spent for government power and private power be in proportion to the present annual amount of public power as compared with the present amount of private power. The committee believes that such a compromise may be reached at the next session of Congress and that an accelerated reactor program, including some form of government help to private industry, will be approved.

So far as the investment banking business is concerned, financial efforts in the nuclear energy field have been of a secondary nature, the report stated. They have consisted largely of participation in the formation and public distribution of investment companies for the specific purpose of investing in established companies active in some field associated with the development of nuclear energy.

Three new companies active in the nuclear industry have received equity capital backing from several of the larger investment banking firms. Because of the speculative nature of these companies, the private placement approach has been necessary, but the report looks forward to public financing in the future if hopes for their growth and success materialize. The report continued:

For some time to come, industrial atomic energy will continue to depend to a major degree upon government guidance and sponsorship and government-financed research and development. However, as an increasing variety of nuclear applications become commercially established the cumulative experience will enable industry, at first gradually but with an increasing

WHAT OTHERS THINK



rapidity, to free itself from this dependence and to establish long-term expansion programs with some degree of accuracy. During the initial period only the most tentative estimates can be made of the capital requirements to support the growth of nongovernment atomics, and they should be regarded only as orders of magnitude rather than financial forecasts.

One such attempt has been made by the Atomic Industrial Forum in a projection confined to the nuclear reactor field for the period 1955-65; this applied to the capital cost of reactor plants

and related research and development, exclusive of nuclear fuels, for electric power stations, small power units, and naval and aircraft power. This forecast indicated a range of cumulative new capital investment of \$3 billion minimum to \$7.5 billion maximum over the 10-year period. It seems very likely that the maximum figure will prove to be the closer to reality in view of the indicated acceleration of nuclear installations by the public utility industry and the very promising outlook for nuclear-powered ships, including merchant vessels and tankers.

PUBLIC UTILITIES FORTNIGHTLY

Some portion of the required capital will certainly be obtained by new financing on the part of private industry. The figures, however, have another significance for the investment business because their magnitude assures a large-scale development in the relatively near future of related enterprises in the fields of chemical processing, feed materials, radioisotopes, instruments and control appliances, and other service and auxiliary businesses which are certain to require substantial amounts of both debt and equity capital from the public.

THE report warned against the temptation to look forward to a so-called "nuclear age," despite the strides that have been made in the commercial generation of electric power in atomic reactors. "These so-called 'ages,'" it was pointed out—"the 'electronic,' the 'chemical,' the 'automation'—more or less overlap and that one depends for its development upon progress in another. They seem to be all but facets of the phenomena of twentieth century science as applied to economics.

"Nevertheless, we are discovering that nuclear developments cannot be confined in an industrial category. It is true, of course, that there is a nuclear industry. It embraces the mining, milling, and refining of ores for fuel elements and for better structural materials; it includes the engineering and construction enterprises that build our atomic plants and the very many smaller businesses that make instrument and control devices so essential to their operation; and, furthermore, we must include the associated businesses that provide services or directly use the products of nuclear fission. However, although these in the aggregate may finally attain to respectable annual sales volume and thus qualify as industrially important, yet

their significance in the economy can only be minor as related to the impact of nuclear energy as a force."

The committee believes that nuclear energy should be considered as a new "economic prime mover," similar to the concept of mass production or the modern credit system. "Seen in this light," the report concluded, "industry lines are dimmed and we find that our subject affects and is affected by all industry and all industrial developments." The committee suggests that the investment business "refocus its vision from the trees of nuclear industry to the forest of nuclear economy."

Natural Gas

THE outlook in the natural gas industry was covered at the convention in the report of the association's oil and natural gas securities committee. Comparison of available figures reveals that there is a failure "to uncover new sources of natural gas as rapidly as would seem necessary, especially in the face of an indicated annual demand of more than 12 trillion cubic feet by 1960," the committee reported. The committee's conclusion was based on figures showing estimated proven recoverable reserves last year at 223.7 trillion cubic feet, indicating a 22-year supply at the present rate of withdrawal. The number of years' supply has been declining gradually from a 30-year rate during the 1935-45 period, the report stated.

The committee cited American Gas Association figures on reserves and production which indicate that during the five-year period, 1946-50, a total of 30 trillion cubic feet of natural gas was produced in the United States, while at the same time a net total of 38 trillion cubic feet was added to reserves. Although net production totaled 45 trillion feet for the latest five-year period, 1951-55, only

WHAT OTHERS THINK

38 trillion cubic feet of additional gas reserves were added to the national stockpile.

To supply the indicated annual demand of more than 12 trillion cubic feet by 1960, production during the next five years must approximate 57 trillion cubic feet, it was pointed out. This would require an addition of 25 per cent of present reserves or an additional 56 trillion cubic feet.

It would also require the development of new reserves of 113 trillion cubic feet in the five years or 22 trillion annually, the same rate as the record new development of 22 trillion in 1955. The report continued:

One must not overlook the private estimates made of ultimate recoverable reserves within the United States, which range from 500 trillion to 725 trillion cubic feet, or many times the current rate of withdrawal. However, it is doubtful whether either of these figures will be approached without the necessary incentive to encourage more intensified search.

Over the years changes have taken place, both in the consumption of gas and in areas of supply. For some time Southwest gas was used near the point of production, either in field operations or in local industrial activities. During the last ten years, a major expansion in use has occurred, as witnessed by an average annual rate of increase of 10 per cent. Whereas interstate transportation of gas was 1 trillion cubic feet in 1945, it now approximates 5 trillion cubic feet annually. Residential and commercial customers now use one-third of the marketed production, but the largest consumption continues to be for industrial purposes. It is noteworthy that one-half of the natural gas

is still consumed in the state where it is produced.

These facts are significant because, given the present unsettled atmosphere and the threat of federal regulation all the way down the line, the producer is more and more disposed toward selling his gas to the local industrial market. This is true because he can avoid federal regulation, not tie himself up for a long life contract and still obtain a good price.

ALTHOUGH undoubtedly many years' supply of natural gas lies beneath the surface of this continent, the report emphasizes that aggressive exploration will take place only so long as the price is realistic in relation to the cost of finding the additional reserves. Said the report:

Much testimony has been presented and various opinions and decisions have been handed down with reference to what constitutes "just and reasonable" prices for natural gas. Several attempts have been made to arrive at a formula which would, at the same time, protect the consumer, and afford the producer adequate incentive to search for more gas. While the gas-producing industry has met demand at reasonable prices, the increase in consumption is outrunning the increase in proven reserves. Therefore, flexible price, responsive to changes in supply and demand under competition in a free market, is required to bring forth the supplies needed.

The committee noted several studies which have been made of the trend in natural gas field prices with reference to the adjustment in terms of 1955 purchasing power. The studies concluded that a producer who executed a 20-year contract in 1940 at four cents per Mcf is now

PUBLIC UTILITIES FORTNIGHTLY

receiving two cents per Mcf in terms of purchasing power. In this situation, producers feel they are justified in inserting escalator clauses to protect themselves from the effects of inflation. "Actually," the committee report comments, "when one examines the change in prices of a long-term contract which was written in the 1940's and compares the latest prices received with that of the initial rate on a new contract, it is evident that the older agreements are not providing their producers with a price equal to the current competitive level. In a steadily rising market, it is the highest price that represents the latest transactions and most nearly reflects the current market."

THE objectives of the Harris Bill, vetoed by President Eisenhower, would have been helpful, the committee stated, since they granted to the producing segment of the industry a statutory right to "fair field" pricing and a modicum of freedom from Federal Power Commission regulation. With natural gas exploration becoming increasingly more hazardous and expensive, there has been a steady decline of the amount of gas reserves owned by the regulated gas utility and an increase in the cost of gas purchased. Gas utilities had no alternative but to seek a division of production facilities from the utility facilities in the rate base and substitution for this production return a price for gas similar to the average price which the utility was paying to other gas producers in the same field. Such a "fair field" price would then place the utility in a competitive position with other buyers of natural gas.

"This approach," the report said, "would provide for adequate compensation for the tremendous risks involved in the exploration for new sources of natural gas and, by so doing, would allow the in-

dstry to attract adequate capital into the production phase of this industry by showing a return on invested capital at least comparative with other competition in the industry."

The committee threw its support to a solution to this problem suggested by the distributing segment. The proposal suggests a "fair commodity price" (similar to "fair field" price), the acceptance of initial arm's-length contract prices and Federal Power Commission review and approval of producing rates at five-year intervals. "If the suggested proposal or a comparative one is written into law within a short time," the report said, "the producing division of the industry will receive a tremendous impetus to search for and develop new natural gas reserves and the distributing division will have found a definite climate of stability."

THE committee's report also dealt with the threat of atomic energy as a competitor. ". . . it still appears," the report commented, "that atomic fuel will probably receive its first widespread use in the generation of electric power; and here it seems to be a matter of long-range planning for more extended and improved service rather than for expectation of immediate profits. Those who have studied the subject carefully believe that construction of unsubsidized atomic fuel plants will be slow and gradual and that they will not displace existing systems, but instead will supplement the nation's integrated power facilities in meeting constantly increasing demand." The committee puts the earliest likely date for the generation of power with unsubsidized atomic fuel at 1959 or 1960. The report continued:

Since the electric utility industry is the most logical field in which the earliest replacement of conventional fuels

WHAT OTHERS THINK

may be expected, let us assume that it "corners the market" there. To the petroleum industry this would mean the loss of less than 3 per cent of the domestic crude run and even less than that in terms of dollar volume. Not only that, but residual fuel oil—the type used—is a by-product, the industry's least profitable item normally selling for less than the crude oil from which it is derived. Approximately 13 per cent of natural gas marketed is used to generate electricity. Whereas this is, of course, a greater percentage than that of displaced crude oil, the loss still would be almost negligible. To quote

a leading authority on the subject, "If all incremental large power stations built after 1960 were to use atomic energy—an unlikely assumption—the estimated loss to the oil industry would amount by 1975 to 170,000 barrels daily, or 1.3 per cent of the anticipated domestic demand; to the natural gas industry the loss in 1975 under the same conditions is estimated at 400 million cubic feet, or 2.7 per cent of the anticipated demand. These are trifling losses."

During the past year, the report concludes, no significant developments have been announced indicating that atomic energy offers a real threat to oil and gas.

Notes on Recent Publications

APPRaisal AND VALUATION MANUAL. Public utility companies will find much of interest in the 1957 appraisal and valuation manual, published by the American Society of Appraisers. The manual contains six sections on rate making for public utilities. Included in this part of the volume are: Fundamental Concepts of Regulation, by Benjamin Silverman, general counsel of the society; Importance of Utility Company Records, by Gerald J. Dierker, vice president and controller of the Jamaica (New York) Water Supply Company; the Rôle of the Expert for the Company, by Maurice R. Scharff, consulting engineer; Rate-making Procedures, by William R. Wolff, chief of the water bureau, New York Public Service Commission; The Rôle of Counsel for the Utility Company in Rate Proceedings, by Cameron F. MacRae, New York attorney; and the Rôle of the Hearing Examiner in Rate Proceedings, by Harold M. Olmsted, hearing examiner for the New York Public Service Commission.

Valuation and the rate base for public utilities are discussed in an article by Frank H. Prouty of Prouty Brothers Engineering Company. The question of depreciation of public utility property is covered in an article by Horace B. Perry, vice president of Jackson & Moreland, Inc. In addition the manual contains a

wealth of material on all phases of appraising and valuation. *1957 Appraisal and Valuation Manual*, American Society of Appraisers, Washington, D. C. Price \$15.

OF current interest in the field of nuclear development is a study by Arthur Kemp of the rôle of government in developing peaceful uses of atomic energy. Since its emergence over ten years ago atomic energy has precipitated political and economic problems of the greatest magnitude to the United States. Now these problems must be met and decisions must be made concerning the development of this energy source. As the author states: "The decisions we reach may well determine the course of American life during the next century; they may determine the life or death of a free society."

Dr. Kemp is professor of money and credit and director of the Institute on Freedom and Competitive Enterprise at Claremont Men's College, Claremont, California. In addition he has been an editorial and research assistant to former President Hoover since 1943. *The Rôle of Government in Developing Peaceful Uses of Atomic Energy*, by Dr. Arthur Kemp, 51 pp., 1956. American Enterprise Association, Inc. Washington, D. C. Price, \$1.



The March of Events

Investigate Feasibility of Reactor

MIDDLE SOUTH UTILITIES, INC., and the electric utility operating companies comprising the Middle South System have advised the Atomic Energy Commission that investigations are being made to determine the feasibility of constructing a prototype nuclear power reactor in the middle South.

As a step in this direction the companies have asked four organizations active in the atomic field to identify to them a conceptual design of a power reactor which, if built in prototype size of around 20,000 kilowatts electrical capacity, would contribute importantly to the advancement of reactor technology. In addition, the reactor design must hold promise, if later constructed in larger size, of ultimately providing an economically feasible source of energy to supplement conventional fuels in the companies' service area.

The four organizations that have been invited individually to submit a conceptual design of a power reactor to accomplish this purpose are General Nuclear Engineering Corporation, Dunedin, Florida, whose president, Dr. Walter H. Zinn, was formerly director of the Argonne National Laboratory of the Atomic Energy Commission; Atomics International, division of North American Aviation, Inc.,

Canoga Park, California; General Electric Company, Schenectady, New York; and Westinghouse Electric Corporation, Pittsburgh, Pennsylvania.

The Middle South System companies are Arkansas Power & Light Company, Louisiana Power & Light Company, Mississippi Power & Light Company, and New Orleans Public Service, Inc.

Southern Gas Group Weighs Air Conditioning

THE Eastern Area Southern Gas Association Gas Air Conditioning Round-table Conference was held at the Henry Grady hotel in Atlanta, Georgia, on November 12th and 13th. The entire conference met together on November 12th but split into separate sales and engineering design, installation, and service groups on November 13th. The sponsor of the sales portion, at which there were fourteen representatives from seven companies in attendance, was W. D. Fortner of the United Gas Corporation. E. J. Hoffmann of the Mobile Gas Service Corporation sponsored the engineering design, installation, and service portion, and he had seventeen delegates from nine companies in attendance.

An interesting and informative program was prepared for November 12th and included a discussion of the 1957

THE MARCH OF EVENTS

plans of Weatherbuster, Coleman, Ready-Power, Carrier, Rheem, and Servel. The sales agenda on November 13th included such topics as methods for establishing selling price of gas air-conditioning equipment; combating heat pump sales effectively; meeting competition from "get-rich-quick" dealers; and preferred way to sell gas air conditioning. The en-

gineering design, installation, and service agenda considered the following: competitive sizing of air-conditioning systems; selection of components for remote air-conditioning installations; selection of condenser water pumps; company policies for servicing gas air-conditioning equipment; and methods of conducting service schools.

Georgia

Gas Certificates Awarded

CERTIFICATES of convenience and necessity were awarded last month to four gas distribution systems for nonconflicting territory they now serve. Hearings on applications in which there was conflict were scheduled to be held late in December and in January.

Most of the territory went to the Atlanta Gas Light Company. Mid-Georgia Gas Company and the South Atlantic Gas Company of Savannah were given certificates for the territory applied for. The fourth system to get a certificate was the Louisville municipal system which applied for a portion of Burke county. Municipal systems are exempt from commission regulation unless they extend outside the county in which they are located.

Commission OK's Purchase

THE state public service commission recently authorized the Georgia Power Company to borrow up to \$11 million from commercial banks to purchase the property of the Georgia Power & Light Company, now owned by the Florida Power Corporation. Actual sale of the property must be approved by the Securities and Exchange Commission and the Federal Power Commission.

Under a purchase plan outlined at a hearing before the state commission last month, Georgia Power will pay between \$9.8 million and \$11 million in cash for the Georgia Power & Light Company property and assume outstanding mortgages of approximately \$7 million.

Pennsylvania

Rate Refund Ordered

THE state public utility commission recently directed Pennsylvania Power & Light Company, Allentown, to make a system-wide refund of \$6,320,736 to customers in 28 counties for alleged over-charges and interest covering a period of two and a half years, ended February 28, 1955. The refund, which was said to be the largest ever ordered by the commission, followed a \$1,920,000 rebate ordered against the company in another case last

July but delayed by an appeal to the state superior court.

The commission's latest order was the result of a superior court order requiring Pennsylvania Power & Light to eliminate as an operating expense the annual amortization of amounts it paid in excess of original cost to purchase smaller utilities merged into its system. Such operating expense had been allowed by the commission in a 1952 order appealed by 198 manufacturing plants and business places.

PUBLIC UTILITIES FORTNIGHTLY

Rhode Island

Fare Hike Approved

A 5-CENT across-the-board fare increase for the United Transit Company was scheduled to go into effect on December 30th. The new fare schedule, approved early last month by Thomas A. Kennelly, state public utility administrator, includes a "thrifiti-card" plan for regular riders which will cost 25 cents a week more than they have been paying. The new fare schedule is as follows:

"Short rides," effective only close to

downtown Providence, up from 10 cents to 15 cents. Single zone rides up from 15 to 20 cents; two-zone rides, from 20 to 25 cents; three-zone rides, from 30 to 35 cents; four-zone rides from 35 to 40 cents; and five-zone rides, from 40 to 45 cents.

Riders using the "thrifiti-card" plan will be able to purchase a card for 25 cents a week or \$1 a month. The card will entitle a rider to use the buses as often as he wishes at the present rates. Student fares will go up from 7 cents to 10 cents on one-zone rides.

Tennessee

Memphis Offers Electric Issue

To finance the largest single power-producing project of its kind ever undertaken by any municipality, the city of Memphis last month put on the market a \$163,245,000 issue of tax-exempt electric revenue bonds. The bonds were over-subscribed on the first day of sale. Net money cost to city will be 4.47 per cent.

The issue will underwrite for Memphis and surrounding Shelby county a power program and construction of a huge new steam-electric plant, designed to take care

of the electric energy needs of the most vigorously growing area of the mid-South. According to the most recent estimates from the United States Census Bureau, it is reported the population of Memphis and Shelby county has increased by 76,666 during the last six years.

The issue was said to be the biggest single offering of electric revenue bonds, sold by a municipality, ever to come on the market. The bulk of the issue will be in the form of term bonds, bearing a coupon rate of 4.40 per cent.

Texas

To Review Competition Issue

THE state supreme court recently agreed to review a dispute over regulation of electric utilities in areas where city franchises and rural co-operatives overlap. The decision reverses an earlier action by the court, which had declined to accept the case.

The test case arose in Gilmer, an east Texas town. The city, which already had granted Southwestern Gas & Electric Company a franchise, annexed an area

served by Upshur Rural Electric Co-operative Corporation. It then granted a franchise also to the co-operative.

Attorney General John Ben Shepperd filed the test case. His application for review by the state supreme court was joined by numerous attorneys for private power companies.

Until the Gilmer case, the Texas law had been interpreted to hold that rural co-operatives could not operate in incorporated cities over 1,500 population.



Progress of Regulation

Trends and Topics

Pension Costs as an Expense for Rate Making

ONLY a few decades ago pensions were generally regarded as a gratuity for past service. As they gradually came into the industrial scene, however, this narrow concept gave way to the modern and more economic view of pensions as a part of a present contract for labor and services. They are, in effect, a compensation in lieu of an increase in wages or salary. Of course, a gratuity would properly be charged to the stockholders, while compensation for services could only be regarded as a cost of doing business chargeable to ratepayers.

Are pension costs, then, to be automatically charged to operating expense for rate-making purposes? What of amortization payments on an unfunded actuarial liability? How to treat "freezing" payments made to arrest the growth of the unfunded requirement? As may be expected, the authorities are not in perfect agreement in their decisions upon these questions. Let us examine a few fundamental aspects of pension plans and then look at some recent, representative opinions of the commissions and courts.

Pay-as-you-go Plans

Under pay-as-you-go plans, pension payments to employees are charged directly to operating expense for the period in which they are paid. This system is simple, but the burden is unevenly distributed. While light costs are recognized during the early period of the program, relatively heavy costs are incurred in subsequent periods as the number of pensioners increases. Other factors affecting retirements may accentuate periodic disparity in pay-as-you-go costs and obviously add to the difficulty of rate making. Moreover, the burden upon the ratepayers of different periods would seem to be inequitable.

Actuarial Plans

Virtually all the commissions now favor actuarial pension systems, though the matter of establishing a pension plan is in the first instance one within the

PUBLIC UTILITIES FORTNIGHTLY

ambit of managerial discretion. Actuarial systems have the advantage of allowing an even distribution of the estimated cost of the plan over a future period. In order, however, for pension costs to be allowable as an expense, the commissions are as one in requiring that they be incurred bona fide under an established pension plan and be irretrievable by the company for use in operations or construction, or to be paid out as dividends.

Upon setting up an actuarial pension plan, what may be termed "normal" accruals must be recognized for services performed during the period extending from the present forward. That such accruals are a proper expense for rate making is now scarcely to be contested, even though a particular periodic charge may in fact be somewhat more than the amount actually paid out in pensions during the period. The accrual, if not excessive, is a reasonable expenditure for the benefit of ratepayers of the period in which the service is performed (85 PUR NS 368; 89 PUR NS 33). The New York commission has declared that all costs of a reasonable pension plan should be allowed. But if, in the judgment of the commission, an unreasonable proportion of pension cost is being charged currently, a portion of it may be considered deferrable to a later period (93 PUR NS 159).

Commissions seldom object to noncontributory plans as such, undoubtedly because of the economic nature of a pension as a part of the requisite compensation payable in one form or another. The Alabama supreme court, in upholding the right of a company to retain a noncontributory plan, ruled that it was error for the commission, by means of disallowing one-half the company's noncontributory pension costs, to compel employee contributions (84 PUR NS 221).

But neither should pension systems become an onerous burden upon consumers. Thus, the Idaho commission disallowed one-third of the pension costs of a telephone company seeking a rate increase on the ground of confiscation, where such costs supported pensions which were "quite generous, particularly at the executive level." The commission thought there should be a balancing of investor and consumer interests in these circumstances (6 PUR3d 428).

Unfunded Actuarial Liability

At the time of establishing the plan, assuming that it covers all employees, new as well as old, and perhaps even those already retired, there will arise a deficiency in the pension fund for the unrecognized payments applicable to past services. An unfunded actuarial liability thus comes into existence. If the deficiency is amortized, should the amortization payments, relating as they do to past services, be charged to current operating expense?

The prevailing view, as evidenced by decisions of recent years, is in the affirmative. It was adopted a few years ago by the New York commission when it expressly overruled its former position on the question. The commission ruled that "upon the establishment of a pension plan, whether based on past or future services, or both, the entire charge becomes an operating expense, not an income deduction or a charge to surplus." It was observed that the charge based on past services contributes to the over-all benefits afforded by a pension

PROGRESS OF REGULATION

system. Employee morale is improved and superannuated employees are removed from the payroll, making way for younger and more industrious workers. These benefits may be expected to increase operational efficiency. They redound to the advantage of present and future consumers (82 PUR NS 161). Other jurisdictions have expressed similar attitudes since the New York decision (84 PUR NS 12; 89 PUR NS 432; 92 PUR NS 133; 7 PUR3d 1).

The opposing view contends that charges relating to past services should have been provided during the periods in which the services were performed and cannot equitably be thrust upon ratepayers of a later period who obtained no benefit from the past services. It is asserted that the actuarial deficiency in the pension fund should be met from surplus or income deductions which are not included in the cost of service. No intangible benefits are recognized as accruing to present consumers (86 PUR NS 360; 100 PUR NS 379). Lending support to this view, the North Carolina commission in 1955 required one-half of past service pension cost to be met from surplus, where it thought the pension cost was high because the plan covered substantially the entire period of employment of eligible personnel (8 PUR3d 65).

Amortization Period

On the issue of the length of time over which the unfunded actuarial requirement should be amortized, the Maine supreme court disagreed with a commission decision fixing thirty years and reduced the period to ten years as initially fixed by the company.

It seems clear, said the court, that the longer the past employment of an employee, the shorter will be the time during which he will serve before retirement and benefit the company and its customers as a satisfied employee, but, on the other hand, the greater will be his impact on the pension cost for past services. This suggests the fairness to future consumers in not extending the amortization period too far into the future, for it is the consumer of the relatively near future who will benefit most from the expenditure of the past service charge. Moreover, the court indicated, the company very properly considered the benefits to be obtained under the federal income tax laws which allow a minimum of ten years in which to amortize the deficiency. The company's choice was primarily a matter of managerial discretion (7 PUR3d 1).

"Freezing" Payments

To the extent that the actuarial liability requirement is not funded, it will increase annually unless steps are taken to arrest its growth. This is accomplished by paying into the fund annually a sum equal to the amount which the fund would have earned had it been actually paid in. The interest rate is that assumed in the actuarial calculations. The payment so determined arrests or "freezes" the unfunded liability.

Again the prevailing view, as expressed in numerous recent decisions, is that the freezing payments should be allowed as an operating expense, though they are conceded to be technically applicable to past accounting periods. It is argued

PUBLIC UTILITIES FORTNIGHTLY

that the payments are necessary to the solvency of the pension fund which benefits present and future consumers through improvements in the work force. They are, furthermore, regularly recurring items.

Several quite recent state supreme court decisions have overturned commission rulings against the allowance of freezing charges. Generally speaking, the courts held that a company acts within its discretion in maintaining the fund by means of freezing payments, and that it is arbitrary for a commission to disallow them in the absence of substantial evidence of abuse of discretion (84 PUR NS 221; 90 PUR NS 414; 6 PUR3d 65).

The California commission, reversing its former stand, added its weight in 1954 to the trend toward allowing freezing payments. The commission recognized the social need and benefit of maintaining a sound pension fund. The freezing payments, it was said, bear a reasonable relationship to present and future pension benefits and are therefore justifiable as a charge to operating expense (5 PUR3d 396). The Missouri commission, however, while allowing freezing charges, strongly recommended that the company amortize the unfunded actuarial liability and eliminate the continual charge for arresting payments (77 PUR NS 33).

The negative view of the question asserts that the failure of management to provide for the unfunded liability in earlier periods is an error which the stockholders should bear, and that future consumers cannot justly be charged with the cost of making up deficiencies that should have been borne by former consumers (80 PUR NS 161; 92 PUR NS 335). Some commissions, citing compelling circumstances, have allowed only a part of freezing charges (72 PUR NS 37; 83 PUR NS 238).

Review of Current Cases

Commission Action on State's Application for Hydroelectric License Limited by Treaty with Canada

THE Federal Power Commission, in dismissing the application by the Power Authority of the State of New York for a license for a hydroelectric project at Niagara Falls, discussed but refused to rule upon the validity of conditions attached to the 1950 treaty between the United States and Canada. The principal questions arising, said the commission, were whether a reservation made in the treaty, as a condition to the advice and consent of the United States Senate thereto, is valid and therefore effective to prevent the commission's jurisdiction attach-

ing to the water diverted under the treaty and whether, in any case, the commission is empowered to pass upon the validity of the treaty reservation.

The application by the Power Authority was made under § 4(e) of the Federal Power Act. Power development on the American side at Niagara Falls has been under the authority of a license issued in 1921 and now held by Niagara Mohawk Power Corporation. This company's generating station in the falls was rendered inoperative by a rock slide this year. The Power Authority proposed that if Niag-

PROGRESS OF REGULATION

ara Mohawk would consent to the surrender of its license, it would sell it an amount of power equivalent to that which it had produced by this project. The proposal was designed to make use of water available under the 1950 treaty, which had increased the amount available to the United States.

Treaty Provisions

When the Senate advised and consented to the ratification of the treaty, it included a reservation of the right to provide by act of Congress for redevelopment, for the public use and benefit, of the United States' share of the waters of the Niagara river made available by the provisions of the treaty, no project for redevelopment of the United States' share to be undertaken until "it be specifically authorized by act of Congress." Canada accepted the reservation, and the treaty, including the reservation, was ratified by the President of the United States. It was also ratified by Canada.

The commission said it was clear that the purpose of the reservation was to require further action by Congress prior to redevelopment of the power site at Niagara Falls. The Senate committee report had stated that without the reservation the redevelopment for power purposes would be governed by the Federal Power Act but that the committee intended by the reservation to retain that power in the hands of Congress. In the absence of the treaty reservation the commission would act on the application in accordance with the provisions of the Federal Power Act. But if it were to accept "the injunction of the reservation as it stands," the commission would have no authority to consider the application on its merits.

Refusal to Pass on Legal Questions

The Power Authority contended that

the reservation is not a part of the treaty because it relates entirely to a matter of domestic concern in that it attempts to amend or repeal in part the Federal Power Act. Therefore, it argued that the reservation cannot supersede the Federal Power Act as a treaty and cannot do so as an act of Congress as it only represents action on the part of the Senate.

There was involved the question whether this type of reservation might be attached to the treaty under Article II, § 2, of the Constitution, which provides that the President "shall have power, by and with the advice and consent of the Senate, to make treaties, provided two-thirds of the Senators present concur; . . .," and whether the reservation became a part of the treaty through its acceptance by Canada and proclamation by the President. The commission did not believe that it could reach any of these questions. It has several times said, and been supported by authorities, that it will not determine the constitutionality of an act of Congress. Furthermore, where there is action by the Senate, ratified by the President purportedly under the treaty-making power of the Constitution, the commission likewise "cannot determine its validity." This, said the commission, is especially true since the action is that of the legislative branch of the government, of which the commission is an arm and of whose intention the commission can have no doubt.

Since the reservation was intended by the Senate as part of the treaty and was intended to prevent FPC jurisdiction attaching to the water made available by the treaty, it "is entirely authoritative" with the commission as "the supreme law of the land" under Article VI of the Constitution. Thus, assuming the validity of the reservation, before the commission can consider such an application on its merits, it would seem the Congress must

PUBLIC UTILITIES FORTNIGHTLY

take action in accordance with the reservation to permit redevelopment under the Federal Power Act of the waters of the Niagara river made available by the treaty.

Concurring Opinion

Commissioners Digby and Stueck agreed with the majority that the question of whether the reservation initiated by the Senate to the 1950 treaty is valid and binding upon the commission is not a matter on which the commission is empowered to make a determination. They believed, however, that the commission's

position should be clear in any court proceeding that may arise so as to avoid an unnecessary remand to make a determination that could be made at the time without entering at all into the merits of the case. Therefore these commissioners considered whether the treaty reservation is properly part of the 1950 treaty and concluded that it is a part of such treaty and "supreme law of the land" under the authority of Article VI of the Constitution. They went on to explain their reasons for this conclusion. *Re Power Authority of the State of New York, Opinion No. 298, Project No. 2216, November 30, 1956.*



Increase in Gas Producer Rates Not Supported by Evidence of Bargaining and Market Value

MOTIONS to dismiss rate increase applications of several producers selling gas to Transcontinental Gas Pipe Line Corporation were granted by the Federal Power Commission on the ground that the applicants had failed to sustain the burden of proof. Evidence of arm's-length bargaining and of market value of the gas, without evidence that the increased rates were no higher than necessary to encourage exploration for and production of known and future gas reserves, was held insufficient to prove the justness and reasonableness of the proposed rates.

Jurisdiction of Federal Power Commission

The commission first considered briefly contentions that it lacked jurisdiction to determine the just and reasonable rates in these proceedings. It had been urged that the decisions of the Supreme Court in the Mobile and the Sierra Pacific cases (12 PUR3d 112, 12 PUR3d 122) bar suspension of the effectiveness of the new rates and commission review of these decisions

under § 4 of the Federal Power Act.

The commission said it was clear that the contracts containing the increased rates filed with the agreement of the purchaser, Transcontinental, were precisely the kind of contracts which the Supreme Court determined to be subject to suspension and review. The court's condemnation of unilateral filings in the Mobile case was based upon its interpretation that § 4 provides for the filing, notice, and commission review of changes in contracts which would be "otherwise valid." Since in that case the pipeline company's proposed change was a unilateral change of a contract rate, it was not an "otherwise valid" change. Here, however, both buyer and sellers had agreed to the changes. It was said to be the commission's duty to review these rates agreed to between the parties to determine whether they conformed to the standards laid down in the act.

Proof of Reasonableness

The sum total of the evidence demon-

PROGRESS OF REGULATION

strated that the increased rates were reached as a result of arm's-length bargaining and that they were within the range of the field prices in the pricing area in southern Louisiana. The evidence further showed that to exact the price of 17 cents per Mcf, proposed in the proceedings, the applicants were required to grant additional considerations to Transcontinental, such as increased dedicated reserves. It was also clear that the growing demands for gas by Transcontinental's customers in the industrial and heavily populated New York-New Jersey-Pennsylvania area were translated through Transcontinental to increasing demands for gas in the field. The evidence further tended to establish that the price of gas as sold by Transcontinental to customers in that area competed favorably with the prices of coal and fuel oil for space-heating and boiler fuel uses.

None of the evidence presented, however, was designed to show what rates were needed, either by individual producers or by the industry generally, to further exploration or other production functions. The commission said that it could not determine rates from the evidence before it. General statements by expert witnesses to the effect that increased rates were needed or desirable as an incentive to continued exploration and development of gas supplies, said the commission, are not evidence that rates proposed are just and reasonable for sales of gas to the pipeline company.

The function of the regulatory agency, it was said, is not to probe the processes which culminated in revised contractual relationships between the buyer and the sellers. Rather, the commission's function is to find whether, as a result of these bargaining processes, the parties have fixed upon a rate which, in addition to protecting their private interests, is in the public

interest. Viewed in this light, it was said to be evident that no enumeration of added considerations nor succession of contractual concessions will, as a matter of law, demonstrate the reasonableness of a rate level. Evidence of the existence of arm's-length bargaining *per se* is not proof of reasonableness.

Departure from Rate Formula

In reply to a contention that the Federal Power Act does not limit the commission to the use of any particular formula or combination of formulas and that higher rates encourage continued exploration and development, the commission said that the reasoning was faulty. It supposes that because court decisions have held the commission is not limited to the use of a formula the commission is completely unfettered in its choice of rate-making method.

The commission said it could not be sure that the rates were sufficient to promote exploration for and development of gas supplies and, at the same time, to provide the protection to the ultimate consumer contemplated by the act. Indeed, a delegation of power to make rates interpreted as broadly as the applicants would have it, would permit the unregulated market to determine rates in the name of regulation.

The end result test that rates charged by a natural gas company shall be "just and reasonable" is both a statutory and a constitutional requirement, said the commission.

The commission was unable to determine from use of the evidence in the record whether or not the end result, as that test is used in the Hope case (51 PUR NS 193), is just and reasonable. The value method used alone does not provide objective standards for determining just and reasonable rates.

PUBLIC UTILITIES FORTNIGHTLY

Opportunity for Further Inquiry

The commission noted that no burden of proof rested upon interveners or the staff to present negative evidence that the increased rate was unreasonable. Commissioners Stueck and Digby, dissenting, felt that the commission, as an administrative agency, should search for and at least co-operate with every effort to accomplish the express purpose laid down by Congress in connection with a determina-

tion of lawful rates. They did not believe that the technical rules of courts with reference to motions to dismiss should or could be applied by the commission. They concluded that the proceeding should be reopened to complete a record from which the commission should make a determination on the merits as to a lawful rate. *Re Union Oil Co. of California et al. Opinion No. 300, Docket Nos. G-4331 et al. December 6, 1956.*



Affiliated Gas Companies Consolidate to Effect Operating Economies

THE New York commission authorized two related gas companies, Iroquois Gas Corporation and Republic Light, Heat & Power Company, to consolidate. It was clear that the consolidation would result in certain economies of operation, provide more uniform procedures in the tariff and rate structures of the two companies, and would be generally in the best interests of the public.

In 1950 the commission had commenced a proceeding in an effort to improve the quality of service in the manufactured gas area of Republic Light, Heat & Power Company. In that hearing it was shown that Republic had agreed to purchase its entire requirements of gas to be consumed in its manufactured gas division over a 20-year period from a single supplier. As long as such situation existed there was little prospect of introducing natural gas or improving service within that area. Many new homes were being constructed, there was a deficiency of gas for space-heating purposes, and rates were high as compared with companies using natural gas.

Common Ownership of Companies

As a result of that proceeding, the en-

tire common stock of Republic was purchased by National Fuel Gas Company, parent of Iroquois Gas Corporation. At that time the requirements contract with the supplier for the Republic manufactured gas division was modified and gas service in the manufactured gas district was converted to a mixture of natural and manufactured gas of the same quality as that supplied by Iroquois in its own franchise territory.

Joint Operations

The consequence of this development was that both Iroquois and Republic now have common officers, common executive staffs, occupy common offices, and have practically identical labor contracts with employees both as respects job classifications and rates of pay. All materials are purchased on a common basis, common stock piles available to either company are maintained, engineer practices are uniform, and the same engineering staff designs the facilities for both companies. Many pipelines now convey gas for the use of both companies, many operating stations handle gas for common usage, and much construction and mobile equipment as well as many work crews are employed in a common purpose in the areas

PROGRESS OF REGULATION

served by both companies. Even billing services for gas supplied by the companies are performed by a single group.

Another result of the acquisition was that more supplies of gas were readily available to domestic consumers, and the policy of curtailment in the supplies of gas available for industrial use was changed to an aggressive sales campaign to seek additional industrial customers. Furthermore, reductions of rates in the former manufactured gas area of Republic resulted in great savings to consumers.

Basis for Consolidation

In the present consolidation proceeding, it was established that without joint use by Republic of portions of the plant and facilities of Iroquois (particularly the

common use of natural gas storage facilities originally developed by Iroquois) it would be impossible for Republic to continue its current volume of gas supply or maintain its present rate structure.

The continuance of separate corporate entities, therefore, would involve complicated bookkeeping credits and debits for gas supplies and the use of plant separately owned but required for the proper functioning of both corporations. The commission concluded that nothing could be gained by the continued existence of such separate corporate entities for operations which are now consolidated for all practical purposes except in a technical legal sense and in the keeping of books. *Re Iroquois Gas Corp. Case 18047, November 14, 1956.*



Managerial Discretion as to Type of Securities and Private Sale of Bonds Sustained by Commission

THE New York commission authorized a water company to issue \$1.3 million principal amount of first mortgage bonds, 4½ per cent, for the purpose of permanently financing an equivalent amount of short-term bank indebtedness, the proceeds of which had been used for construction purposes.

Managerial Discretion in Issuing Securities

The problem of selecting the class of securities to be issued and sold in connection with the financing of capital expenditures, pointed out the commission, is primarily a matter for decision by management. Under ordinary circumstances, management's determination should be controlling, provided the terms under which the proposed securities are issued would not adversely affect public interest.

The issuance in this case, noted the

commission, would increase the company's debt ratio, which at present was appreciably higher than was desired by most utility companies. Including the proposed issue, the debt ratio would reach 69.6 per cent.

Other Types of Securities Not Considered

No testimony had been presented as to the selection of first mortgage bonds, nor was any evidence offered as to the consideration, if any, given to the issuance of another type of security. However, the commission said, the possibility of issuing other than the proposed securities was extremely remote. In the first place, no dividends had been paid by the company on any of the outstanding capital stocks since 1939. Secondly, additional shares of preferred stock could not be sold to the public without amendment of the company's certificate of incorporation.

PUBLIC UTILITIES FORTNIGHTLY

There was also outstanding an effective order of the commission which required that future income reservations be set aside and used exclusively for property additions or for the retirement of debt securities.

Under such circumstances, it was highly problematical that any new equity capital could be obtained by the corporation other than from the present holders of such stocks, and undoubtedly the choice of first mortgage bonds for financing purposes had been dictated by this fact—a fact which lessened the significance of the corporation's debt ratio and dividend record.

Private Placement of Bonds

The method selected by the company to dispose of the new securities, by private placement with institutional investors, appeared warranted. It was uncertain whether the terms obtainable under a public offering, either by a competitive bidding arrangement or a negotiated underwriting agreement, would be better than the terms secured by the corporation's financial adviser. This was especially true after giving consideration to the size of the issue and the additional expense entailed through a public distribution of the proposed bonds. *Re Long Island Water Corp. Case 17967, November 13, 1956.*



Surcharge Water Rates for Nonconservant Air Conditioning and Refrigeration

THE Wisconsin commission authorized a municipal water plant to increase rates to yield a return of 5.5 per cent and to provide a more effective control for the use of water for air conditioning and refrigeration. The estimated rate of return was considered fair and reasonable.

In 1951 the plant had established a seasonal service rate for the purpose of encouraging seasonal users to conserve water where possible and for the further purpose of placing the relatively high cost of serving the seasonal load on seasonal customers. But these rates have not achieved their purpose. Consequently, the company proposed penalties to be applied to customers with water-cooled air conditioning and refrigeration if they fail to install approved water-conserving apparatus.

Problem of Load Factor

The seasonal nature of the use of water for cooling causes customers with air-conditioning and refrigeration equipment

to be low-load-factor water users on an annual basis. The capacity of the water plant is determined by the peak seasonal load, much of which can be attributed to service furnished to air-conditioning and refrigeration customers who use water for cooling and who employ no water-conserving devices in connection with that use. These customers could improve their load factor by installing such devices. Their cost would be considerably less than the cost of additions to the water plant to meet peak loads that could be reduced by the use of these devices.

Penalty for Nonconservant Use

The charge to be made for nonconservant use of water for cooling would be determined by relating the rate to the operating costs and fixed charges on capacity used less than average. In other words, the charge would be in the nature of a penalty for poor-load-factor use.

The order authorized an annual surcharge of \$20 a ton of rated refrigerating capacity of nonconservant water-cooled

PROGRESS OF REGULATION

air-conditioning and refrigerating units to be charged in addition to charges under other applicable rates. One-fourth of the annual surcharge would be charged for each new unit installed between September 1st and September 30th, one-half between August 1st and August 31st, and

three-fourths between July 1st and July 31st of any year. If conservant air-conditioning units are installed, the surcharge shall be reduced proportionately, depending upon the date of installation. *Re City of Appleton*, 2-U-4672, November 2, 1956.



Deterioration of Service and High Cost Bar Exchange Alteration

THE Wisconsin commission dismissed a complaint by persons residing in territory served by the Birnamwood exchange of General Telephone Company seeking to receive service from the Wausau exchange. The commission concluded that it was necessary to give proper consideration to the interest of present Wausau customers and that it would be against the public interest to take action which would deteriorate their present service and in addition require a high investment for each new customer when good service is available from an adjoining exchange.

The company had expressed a willingness to serve these prospective customers from Birnamwood on a foreign exchange basis from Wausau, but they objected to receiving Birnamwood service and to the cost of foreign exchange service.

The company had filed an exchange boundary line map for its Birnamwood exchange which included the premises of these persons. They were located about 14½ miles from Wausau and 9 miles from Birnamwood. They were located from a

few hundred feet to one mile from the boundary line between the exchanges. They desired Wausau service because most of their business and social relationships were with those who are located in the area served by that exchange.

The telephone company objected to providing Wausau service on a direct basis and it considered that a much more satisfactory grade of service could be provided from its Birnamwood exchange. In the immediate Wausau exchange area adjacent to them the company had found it necessary to install high-efficiency telephone instruments and copper wire in order to provide satisfactory service.

The commission dismissed the proceeding, stating that until such time as a community of interest with Wausau develops in Birnamwood which would require the rendition of extended area service to Wausau, the furnishing of reasonably adequate facilities and service to the public and public convenience and necessity do not require the service sought other than on a toll basis. *Marten et al.* 2-U-4681, November 26, 1956.



Sale of Irrigation Property Authorized Subject to Cancellation of Unfair Rule and Rate Provisions

A CORPORATION engaged in the business of selling and distributing water for irrigation was authorized by the California commission to dispose

of its public utility property to four irrigation districts. A protest against a service rule and a rate provision was, however, upheld and their cancellation

PUBLIC UTILITIES FORTNIGHTLY

was required as a condition of approval.

The corporation had previously sold portions of its public utility properties to three irrigation districts. Another district had been organized by landowners within its present service area for the purpose of acquiring the major portion of the remaining assets and serving themselves with water for irrigation. The prior sales, it was said, had clearly demonstrated that, owing to the tax-exempt status of the districts and their nonprofit character, the districts could serve landowners within their boundaries at lower rates than the seller.

Objectionable Rate Provision

One group of farmers, according to the proposal, would be served upon the same terms and conditions as properties lying within the boundaries of the respective districts, except that the districts might charge either the seller's presently effective rates or the rates applicable within the district involved (including both assessments, if any, and water tolls) plus a surcharge of 50 per cent thereof, whichever is greater.

One farmer objecting called it discriminatory to require him to pay the presently higher rate of the seller. The commission agreed, stating that it was difficult to understand why the seller's higher rates would be applied when it was agreed that the 50 per cent surcharge equalized the expenses and assessments paid by district members. There did not appear to be any logical basis for charging the higher rate of the selling corporation.

Objectionable Restriction on Service

The selling corporation also had a tariff rule which provided that if a consumer failed to take water within a 5-year period, it might discontinue to serve him. Under the proposed agreement the districts would adopt this 5-year rule and make it applicable to "fringe area owners." The farmer raising objections to these proposals contended that the 5-year rule was impractical if one properly rotated his crops and tried to farm in accordance with the national farm program. Just a few crops, he stated, required the land to be flooded. Flooding the land just to preserve a right to water, he testified, would be imprudent and uneconomical farming, for it would not only be a waste of water but would render the land useless for many crops until the following year.

The commission was of the opinion that this objection was well taken. The 5-year rule appeared to serve little or no purpose. The selling corporation had never invoked the rule to date, but if it were to do so it would appear that the land affected would be forever precluded from the right to claim water. If that was true the effect upon the value of farm land once the rule was invoked would be uncertain. The district had no such rule for its members and its strict imposition against this limited number of property owners, who had previously had the protection of the commission, could leave them abandoned and unprotected. *Re Sutter Butte Canal Co. Decision No. 54048, Application No. 38259, November 5, 1956.*



Lease-back Arrangement for

THE New York commission overruled its examiner when it authorized the New York, New Haven & Hartford Railroad Company to discontinue its pres-

Railroad Station Approved

ent passenger and freight station at New Rochelle upon the establishment of new facilities. The latter would be developed by a real estate corporation which, in turn,

PROGRESS OF REGULATION

would lease space in the new terminal building to the railroad for a passenger station for a term of 299 years.

The present passenger station is antiquated, isolated by the New England Thruway, and cannot serve as an express stop for through trains. It is seventy-two years old, but the examiner did not believe that it was inadequate to meet the requirements of the passenger service. The examiner had concluded that while the improvement was desirable from an over-all civic standpoint, the benefit to be derived by suburban commuters was questionable. He had doubted that long-distance rail passenger traffic from New Rochelle would increase to such an extent as to make a sizable impression on the increased passenger costs which would result from the change.

Commission Views

The commission recognized the problem of continued losses from passenger service which the public and the rail systems of this country face, one of the most serious matters affecting our economic well-being. It said that the greatest hope of meeting the situation is predicated upon better merchandising by the railroads and the giving of better rather than poorer service to the public. Poor service drives the passengers away, discourages patronage, and affords no hope of a healthier financial operation.

Pointing out that the proposal is a departure from traditional methods of operation—the owning of station buildings by the railroad—the commission said that since the railroad would have a long-

term lease, there could be no suspicion that this was merely a device to fail to discharge its obligations to the public. Furthermore, the proposal was endorsed by the municipal authorities, chamber of commerce, and others responsible for the civic well-being of the community. It would result in modern facilities in the place of a building nearly a hundred years old.

Cost Factor

It was conceded that presently the actual cost to the company would be somewhat in excess of existing costs. But, the commission said, lease-back arrangements are increasingly popular devices since frequently they result in tax savings. Modern facilities built by a railroad without this type of arrangement would increase costs far more than the proposed plan. The commission believed that this type of improvement should be encouraged rather than discouraged.

The examiner had said that if there were certain changes made in the lease-back agreement, it might be approved. Here, the proof was that the agreement was reached by arm's-length bargaining, that there was no affiliation of interest, and that the management of the railroad believed it to be a good business deal. Therefore, the commission did not believe it to be its function to renegotiate this type of contract. It noted that the rule would be very different, however, if this were a device by the management of the railroad to favor some allied or friendly interest. *Re New York, N. H. & H. R. Co. Case 18001, November 13, 1956.*



Preferred Stock Reclassified and Additional Shares Issued

THE Colorado commission authorized the Greeley Gas Company to reclassify the 977 shares of its 5 per cent cumula-

tive preferred stock presently outstanding into a like number of shares of 5½ per cent cumulative preferred stock and to

PUBLIC UTILITIES FORTNIGHTLY

issue additional shares of $5\frac{1}{2}$ per cent cumulative preferred stock. The transaction was deemed to be reasonably required for the company's proper corporate financing and for partial repayment of its indebtedness. The company appeared able to meet the dividend and sinking-fund requirements of the additional stock. The resulting capitalization would consist of 40 per cent long-term debt, 39.2 per cent common stock equity, and 20.8 per cent preferred stock.

In 1955 the company had acquired the operating rights and assets of another gas company. In the same year, the commission had authorized the company to expand its service area. In connection with this expansion of territory and with the growth of the company's operations in other territories served by it, it had made substantial capital additions to its systems. The acquisition of the gas properties and these expansions had been financed partly from retained earnings and partly from short-term bank loans. Consequently, a reduction of the company's debt had become imperative if further additions to its systems were to be made.

The proposed sale of additional preferred stock was part of this program. Virtually all of the money received from this financing would be used to reduce the company's short-term bank loan. This would make possible further borrowings for expansion of its gas systems.

Reclassification of Existing Stock

The company president testified that

when the preferred stock was first issued in 1951, the company was advised by the underwriters that they did not feel able to sell stock on an open-end basis. Therefore, the company was placed in a position where it was necessary to obtain the permission of the holders of the old preferred stock in order to issue any more preferred stock which would rank on a parity with it. Since interest and dividend rates are considerably higher now than they were in 1951, the holders of the old preferred stock had no incentive to consent to a new issue unless their own position was improved. It was concluded that an increase of half of a per cent in their dividend rate was the smallest concession which could be offered to be assured of getting their consent to the new issue. The new issue is open-end, thus avoiding similar difficulty in the future.

It was stated further that now it was necessary to raise the dividend rate offered from 5 per cent to $5\frac{1}{2}$ per cent to obtain outside funds. The company is larger and stronger than it was in 1951, but interest rates have increased since that time. The commission observed that while the dividend on preferred stock is not, strictly speaking, interest, yet preferred is a fixed-yield security and it is affected by the amount that could be obtained by selling a debt security. The company was unable to find any who were willing to underwrite an issue of its preferred stock having a dividend rate lower than $5\frac{1}{2}$ per cent. *Re Greeley Gas Co. Application No. 14768, Decision No. 46742, October 26, 1956.*



Stock Issue to Reimburse Treasury

THE Indiana commission authorized a telephone corporation to issue additional common capital stock at not less than par value, to be offered to holders of

common capital stock outstanding pro rata. This was for the purpose of reimbursing it in part for moneys actually expended from income or from other mon-

PROGRESS OF REGULATION

eys in its treasury, not directly or indirectly secured by or obtained from the issuance of stock or stock certificates or bonds, notes, or other evidences of indebtedness maturing more than one year after date.

The proceeds can also be used for acquisition of property or for the construction, extension, or improvement of, or ad-

ditions to, its facilities. Proceeds can also be used for the discharge, or lawful refunding, of obligations, and not for maintenance of service, replacements, or substitutions. After reimbursement, the proceeds remaining are to be applied to the payment of obligations of less than one year's maturity. *Re Illinois Bell Teleph. Co.* No. 26773, July 18, 1956.

Other Recent Rulings

Contract Rate Yields to Tariff Rate. The California commission ordered a water company to apply regularly filed tariff rates to all customers in its service area, notwithstanding lower, unfiled contract rates for service to a subdivision, since the contract constituted, at best, a deviation from the utility's main extension rule and, at worst, created a discriminatory rate situation. *Shaeffer et al. v. Avilla Water Co.* Decision No. 53992, Case No. 5708, October 30, 1956.

Telegraph Rate Increase. The Utah commission authorized Western Union to increase intrastate rates to conform with upward adjustments in interstate rates where wage increases had necessitated a need for additional revenue and the increased rates would not produce more than a fair rate of return. *Re Western U. Teleg. Co.* Case No. 4364, October 18, 1956.

Telegraph Rate Increase. The North Carolina commission granted Western Union an intrastate rate increase as requested, on the basis of a separation study prepared by the company in accordance with the approved manual of separations, where no evidence was offered other than that presented by the company, though the separations study had been analyzed

and found reasonable in previous proceedings. *Re Western U. Teleg. Co.* Docket No. WU-22, November 23, 1956.

Federal Jurisdiction over Local Gas Sales. The Federal Power Commission dismissed for lack of jurisdiction applications for authority to sell natural gas to the Ohio Fuel Gas Company for resale where the gas involved is produced, sold, and consumed within the state of Ohio. *Re Moulter Gas Co.* Docket No. G-6464 et al. November 2, 1956.

Court's Function at End. The United States court of appeals affirmed a Federal Communications Commission order allocating a VHF television channel where the commission had not departed from established principles or program and had met all procedural requirements as to rule-making proceedings, no defect in the order had appeared, the order was consistent with the act dealing with the distribution of licenses, and the given reasons were rational and supported the commission's conclusion. *VanCurler Broadcasting Corp. v. United States*, 236 F2d 727.

Air-line Acquisition and Contract. The United States district court held that the Civil Aeronautics Board had authority to approve the acquisition of one airline by

PUBLIC UTILITIES FORTNIGHTLY

another as being in the public interest and at the same time disapprove the terms of the contract covering the transaction as being adverse to the public interest, since matters of approval of acquisition and of contract are governed by different provisions of the statute. *Hartman et al. v. North Central Airlines, Inc.* 144 F Supp 885.

Revised Certificate. The Indiana commission corrected ambiguities in a certificate of public convenience and necessity which had been granted a motor common carrier by issuing a new certificate which granted authority conforming to the proof presented at the time the original application had been made, the commission commenting that the public had a right to know with exactness a carrier's obligations, duties, and responsibilities under the certificate issued. *Re Steel Dispatch, Inc.* No. 5296-A, 1, July 13, 1956.

Loss No Justification for Discontinuance. The Missouri commission held that operation of trains at a loss is no justification for an order permitting discontinuance if there is a public need for continued operation, unless such continued operation would result in a confiscation of the applicant's property or would become a burden on interstate commerce. *Re Chicago, R. I. & P. R. Co.* Case No. 13,386, October 26, 1956.

Half-time Agency Service. A railroad's request to substitute caretaker for agency service at a certain station was denied by the Wisconsin commission, but the railroad was authorized to substitute half-time agency service instead, where there were sufficient revenues accruing to afford

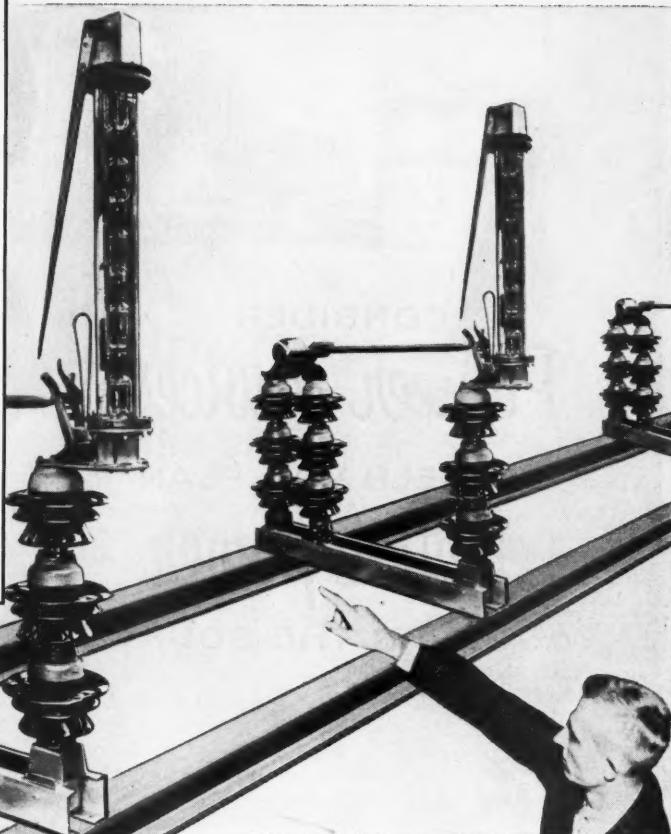
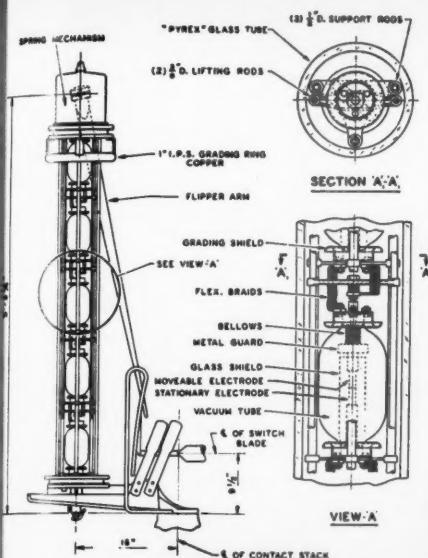
half-time service and still contribute substantially to the transportation and overhead costs of handling the traffic and the furnishing of such service was consistent with the public interest. *Re Chicago, B. & Q. R. Co.* 2-R-3090, November 1, 1956.

Excessive Rate to Large Customers. The Wisconsin commission, in authorizing a municipal plant to increase water rates in order to produce a return of 5.5 per cent, said that a proposed rate which would affect only large commercial and industrial customers would result in charges that would exceed the cost, including a reasonable return on the assigned investment, of furnishing such service and would therefore constitute unreasonable discrimination. *Re City of Thorp,* 2-U-4697, November 26, 1956.

Duplication Not Favored. The Colorado commission stated that it did not favor a duplication of motor vehicle common carrier authority with that of a private carrier permit and denied that portion of a certificate which sought common carrier authority, but it approved the portion which sought contract carrier authority. *Re Thacker (City Delivery Service), Application No. 14709, Decision No. 46670, October 17, 1956.*

Private Carrier Acting as Common Carrier. The Colorado commission stated that it had authority to stop an applicant granted private carrier authority from acting as a common carrier and, if the matter came into question, the applicant had the burden of showing that he was not acting as a common carrier. *Re Hays (Hays Truck Line), Application No. 14297, Decision No. 46737, October 26, 1956.*

Operational features of new Delta-Star Type JV Vacuum Tube Switch.



DELTA-STAR Announces NEW High Voltage MKV-40 Interrupter Switch

Provides positive current interruption for load and capacitor switching.

The new Delta-Star MKV-40 Interrupter Switch is especially well suited for switching capacitive loads. A series of vacuum switches having extremely high dielectric strength does the job. Ratings 34.5 kv to 138 kv are now available.

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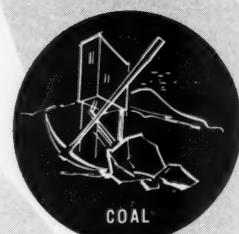
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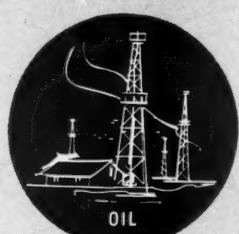
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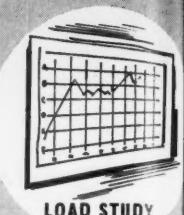
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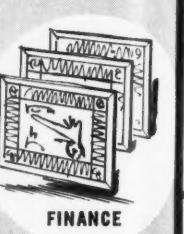
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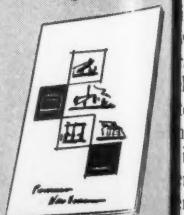
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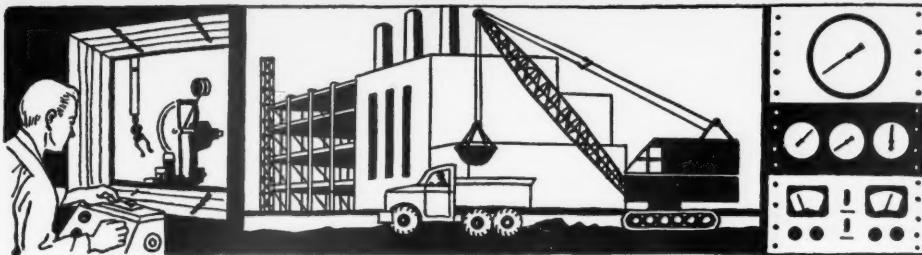
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Industrial Progress

Boston Edison Plans To Spend \$160 Million In Five-Year Expansion

BOSTON Edison Company expects to spend \$160,000,000 on new construction during the coming five-year period, according to Thomas G. Dignan, president.

Dignan said the company will spend some \$95,000,000 on new transmission and distribution lines and \$65,000,000 on new generating facilities. The major items in the expansion program will include the completion next year of a new 140,000 kilowatt generating unit for its Mystic River plant, a second 140,000 kilowatt unit which was switched on in 1959, and a third scheduled for operation in 1961. The unit may be larger than 140,000 kw. on down on a year by year basis, Dignan said. The company will have roughly \$38,000,000 in 1957, \$40,000,000 in 1958, \$34,000,000 in 1959, and \$30,000,000 in both 1960 and 1961.

Power Group Picks Stone and Webster

BOSTON and Webster Engineering Corporation of Boston, Mass., has engaged by the Carolinas Virginia Nuclear Power Associates as architect engineers in a consulting and engineering capacity. The contract was signed by N. A. Cocke, president of our company nuclear power corporation.

It is expected that Stone and Webster will have engineers studying the program immediately and will present a preliminary report to the board of directors at a meeting scheduled at Columbia, S. C., January 8th. Associated Carolinas Virginia Nuclear Power Associates, Inc., are Carolina Power & Light Company, Duke Power Company, South Carolina Electric

& Gas Company, and Virginia Electric & Power Company.

Louis V. Sutton, president of CP&L, said: "Our group is pleased to have obtained for the project the services of an engineering company which has pioneered in nuclear power. Now we can proceed to review with manufacturers and others the types of reactors which they would propose so that we can decide on a reactor type. Naturally, we will seek to work closely with the Atomic Energy Commission."

Stone and Webster designed for Westinghouse Electric Corp. the pressurized water reactor plant now under construction at Shippingport, Pa., and was among the first concerns in the country to have an active part in atomic energy, having constructed the gigantic electromagnetic plant at Oak Ridge, where many of their present employees began their specialized training in nuclear energy problems.

Last year this organization contracted with Combustion Engineering, Inc., to construct Combustion's nuclear engineering center at Windsor, Conn., which includes administrative, experimental and manufacturing facilities. Concurrent with this work, they have participated in preparing proposals on the Army's package power reactor to be erected at Fort Belvoir, Va., and with the Associated Universities, Inc., to provide various nuclear facilities at Brookhaven National Laboratory. They are also consultants for the Florida Companies Nuclear Power group and the Pennsylvania Power and Light Company.

Rochester Telephone Plans Record Building Outlay in '57

ROCHESTER Telephone Corporation plans to spend a record \$15,000,000 on new construction in 1957, according to Donald H. Campbell,

president. The company estimated that its 1956 expenditures would amount to \$9,000,000.

The major items in the company's expansion program in 1957 will be the building of a new dial exchange on the outskirts of Rochester and the conversion of a manual exchange located within the city to dial operation.

Three Companies Join in Building \$23,000,000 Plant

THREE electric utilities serving the southwestern desert areas — California Electric Power Company, Arizona Public Service Company and the Imperial Irrigation District — announced recently that they are cooperating in development of a two-unit, \$23,000,000 steam electric generating plant and power pool to meet growth in their respective service areas.

The new generating facilities, to be known as the Yuma Axis steam plant, will be located on 80 acres of land approximately four miles west of Yuma, and adjacent to the Southern Pacific Railroad serving Somerton, Arizona. The location was selected as the site most desirable for a centrally located power generating facility for both economic and geographic reasons.

The first unit, estimated to cost \$12,000,000 and of general outdoor design, will have a rated capacity of 80,000 kilowatts. Construction will start in 1957 and will be completed in the spring of 1959.

A second unit of similar size will be constructed on the 80-acre site by Arizona Public Service Company and later a third unit will be built by the Imperial Irrigation District in the Imperial Valley. The Yuma plant will be operated by the Arizona Public Service Company and the three agencies will participate in the plant output and share all costs.

(Continued on page 22)

INDUSTRIAL PROGRESS—(Continued)

Edison Electric Institute Issues Power Survey

BEGINNING with 1956 the second decade of the biggest expansion program in the history of the US electric power industry starts off with close to 50 million kilowatts of additional generating capability already on order, under negotiation or installed, according to the latest Power Survey of the Edison Electric Institute.

This is about equal to the total generating capability of all electric generating plants in 1946. Scheduled additions for the years 1957, 1958 and 1959 alone total 35 million kw, or more than half of all installations in the past decade.

Orders generally are placed two to three years in advance of installation. While orders for 1959 are not yet complete, orders or negotiations for some $7\frac{1}{2}$ million kw for 1960 and beyond are already on the books. Atomic power projects represent about one million kw of the 50 million total presently on order.

The present Power Survey is the 20th in a semi-annual series of reports

started in 1947 by the Institute's Electric Power Survey Committee. Its chairman is Arthur S. Griswold, of The Detroit Edison Company. The most complete study of its kind, the survey includes forecasts of peak power demands and supply capabilities on a regional and national basis. It also presents information on scheduled production of heavy electric power equipment and open manufacturing capacity. The periodic survey is prepared in co-operation with power systems throughout the country, and with equipment manufacturers.

In releasing the report Edwin Vennard, vice president and managing director of the Institute, called attention to the following highlights among the survey findings:

Total generating capability of US electric power systems at the end of 1956, (as estimated for 97% of the industry) were estimated to be about 123 million kilowatts as compared to 116 million at the end of 1955.

Scheduled generating capability already estimated for the end of 1959 is almost 160 million kilowatts—37 per cent more than capability at the

end of 1955.

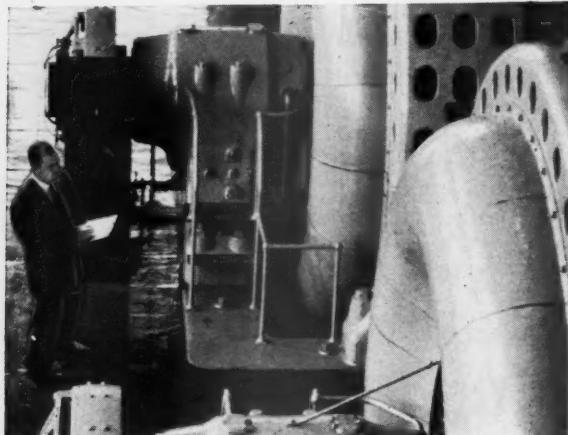
Of the 523 generating units scheduled in the present expansion program, 386 are thermal, totalling 138,900 kilowatts. This includes 1,000,000 kilowatts in atomic projects. Capacity-wise, total the units account for 87 per cent of scheduled expansion. The balance made up by 137 hydraulic units a total capacity of 6,388,790 kilo-

Peak load for the country whole in December of this year is estimated at 106 million kilowatts compared to 98 million kilowatts last year. The December peak load in 1959 is estimated at 132 million watts.

Gross margin (the difference between maximum generating capacity and peak demand) is estimated December of 1956, at 15.5 per cent. By 1959 this should increase to per cent.

Size of thermal generating units continues to increase, with the largest now on order rated at 450,000 watts. In most cases, manufac-

(Continued on page 24)



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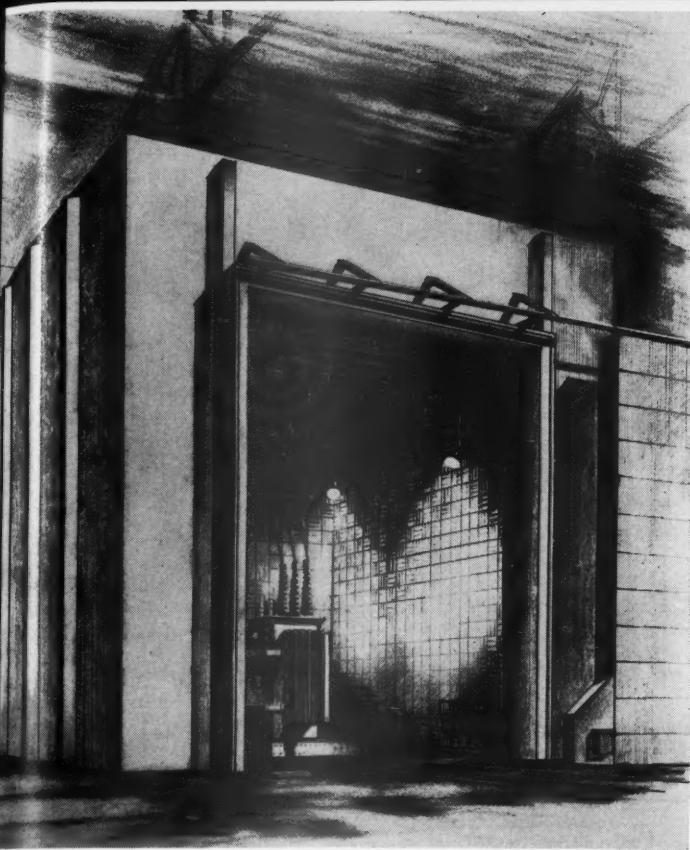
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PUBLIC UTILITIES FORTNIGHTLY—JANUARY 1959



VERY "HUSH HUSH"

The new Westinghouse Anechoic Vault recently dedicated at its Sharon, Pennsylvania transformer laboratory is equivalent in size to a five-story building, with walls five feet thick and a 150-ton door.

As Westinghouse stated—"Here the biggest transformers to be built in the foreseeable future will be tested for noise reduction."

Engineers at Commonwealth Associates Inc. were responsible for the structural and acoustical engineering design for this Westinghouse project.

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INDUSTRIAL PROGRESS—(Continued)

of heavy electric power equipment is scheduled at record rates.

West Penn Power Plans Second Unit at Armstrong Station

PLANS for a second large generating unit at West Penn Power Company's Armstrong Power Station north of Kittanning were revealed recently by P. H. Powers, president.

The newly-announced unit will include a 156,250-kilowatt turbo-generator. The station's first generating unit of 165,000-kilowatt rating is under construction and planned for completion in the late spring of 1958.

No engineering and construction schedule has been developed yet for the second generating unit, but it generally takes from two to three years to build and install such a unit and its auxiliary equipment and place it in service.

The two turbo-generators at Armstrong station, located about 10 miles north of Kittanning along the west bank of the Allegheny River, will be the largest in any of the West Penn Power generating stations, as well as the West Penn Electric System—of which West Penn Power is an important part.

When the expanded station's facilities are placed in service, the plant capability of all West Penn Power generating stations will be in excess of 1,250,000 kilowatts. Approximately 750,000 kilowatts of this will have been placed in service since the end of World War II in 1945, dramatically demonstrating the increasing use of electric power.

The Armstrong capacity, coupled with another West Penn Electric System unit now under construction at Williamsport, Md., will bring the total capacity of the inter-connected system to more than 2,100,000 kilowatts.

1957 Housepower Program Outlined

T. O. McQUISTON, chairman of the Edison Electric Institute Commercial Division, recently announced plans for the 1957 HOUSEPOWER program.

At a press conference in New York City, Mr. McQuiston, who is also vice president of the Metropolitan Edison Company, outlined the five basic objectives of the program which has as its long-term goal the modernization of wiring in an estimated 20,000,000 American homes.

"Our Wiring Promotion Commit-

tee headed by E. O. George, vice president of the Detroit Edison Company," he said, "has defined our objectives for 1957 as these:

"To build a wider consumer recognition; to increase trade ally support and enthusiasm; to integrate HOUSEPOWER with other industry programs; to concentrate on accelerating local selling action machinery, and to show specific results in more rewired homes."

Promotional efforts will be divided into two basic divisions, Mr. McQuiston said. The first is a long-range "backbone" advertising program. This phase is designed to build a backlog of public acceptance of the theme and meaning of HOUSEPOWER, and to increase consumer education. The second phase is a short-range, intensive local selling program to be conducted in the Spring and again in the Fall. This two-season surge of action is designed to convert the consumer education into sales and rewired homes.

The national advertising done by EEI will be supplemented by a continuing advertising program by the National Adequate Wiring Bureau, by electrical manufacturers and other groups concerned with the promotion of the use of electricity in home and industry.

Sylvania Takes Options on Proposed Site for Multi-Million-Dollar Atomic Center

SYLVANIA Electric Products, Inc. announced recently that it has taken options on a 150-acre site in the town of Andover, Mass., as the proposed location for a new multi-million-dollar atomic center for the purpose of expanded research, development, and production activities in the atomic energy field.

Walter E. Kingston, general manager of Sylvania's Atomic Energy Division, said that the options have been taken by Sylvania pending the formation of Sylvania-Corning Nuclear Corporation, which will be organized as a jointly-owned company in the next several months by Sylvania and Corning Glass Works. Mr. Kingston said that Sylvania will now seek formal action by town and other officials concerning the project.

The proposed new center, which would concentrate on the development and production of nuclear fuel elements, would be the outstanding fa-

cility of its type in the world, Kingston said. "Its five model buildings, totaling 150,000 feet, would be arranged in a like surroundings. They would be designed and equipped to make most effective use of the reserved outstanding scientific and engineering skills being brought together by Sylvania-Corning joint enterprise."

Operations in the new facility would start early in 1958. The building would be the administrative headquarters of the new company and would include buildings for manufacturing pilot production, advanced engineering, and supporting services, as well as housing administrative, sales, and other activities, Mr. Kingston said.

The chief executives of Sylvania and Corning said that "the new organization will take over the two companies' atomic energy business, thus acquiring Sylvania's extensive background in metallurgy and Corning's leadership in ceramics. The availability of both these major technical skills is expected to open up opportunities in the nuclear field."

W. Benton Harrison, Sylvania president—finance, said that "with the formation of Sylvania-Corning Nuclear Corporation and the construction of the new center, we hope to bring closer to reality the large-scale, competitive, privately financed nuclear energy industry envisioned in the Atomic Energy Act of 1954."

Predicting a leading role for the new corporation in the atomic energy field, Mr. Harrison said that by conservative estimate, \$300 to \$350 million will be spent in the next few years by industry and other private non-governmental organizations on commercial atomic energy projects. By 1960, the United States nuclear energy industry will have embarked on a period of rapid growth, he predicted.

"In 1980, two decades later, the atomic energy industry of the United States will be handling an annual volume of business measured in the billions of dollars," Mr. Harrison said. "For the nuclear fuels and reactor components part of the industry, the new company's special area of interest, 'the potential annual fuel element market in 1980 will be nearly \$20,000,000 in electric utility generating stations alone, including the United States and those foreign countries outside the Iron Curtain,'" he stated.

Mr. Kingston said that "can-

(Continued on page 26)

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INDUSTRIAL PROGRESS—(Continued)

study" had convinced the company that New England "will soon establish itself as the leader in atomic achievement" and that it afforded excellent opportunities for nuclear enterprises such as Sylvania-Corning Nuclear Corporation not only in high market potential, but to contribute to "general progress" in realizing the benefits of peacetime atomic energy.

"The key to the advancement of the entire nuclear power industry lies in the development and production of new and better fuels, reactor materials, and components as well as cheaper and more efficient means of separation and recovery of spent fuels," Mr. Kingston said.

"Our ultimate aim is to provide a sort of 'filling station' service for reactors wherever they may be," the Sylvania executive declared. He compared the "routine manner" in which atomic fuels, components, and maintenance would eventually be provided for reactors with the servicing now customary for the family car.

A major producer of electrical and electronic products, Sylvania entered the atomic energy field 10 years ago, with particular emphasis on metallurgical research and development. The company's Atomic Energy Division is one of the leaders in the development and fabrication of fuels for atomic reactors, reactor components, and materials, and is a pioneer in the development of nuclear fuel recovery processes.

The company is participating in many of the major reactor projects in the United States and in foreign countries, including projects for the Atomic Energy Commission and other government agencies.

Corning is recognized as a leader in the development and manufacture of glass and refractory products for many applications throughout industry. The company is engaged in applying high-temperature ceramic techniques to the manufacture of nuclear fuel elements and related components.

Carrier Announces New Heat Pump Along With \$30,000,000 Expansion

CARRIER Corporation has launched an expansion and improvement program involving an expenditure of \$30 million over the next two or three years. Cloud Wampler, chairman of the board, declared to press representatives that the company is "backing with dollars our conviction that

the air conditioning business will continue its dynamic growth." Mr. Wampler spoke at the dedication of a new engineering laboratory in Syracuse for Carrier's Unitary Equipment Division which produces room air conditioners, central air conditioning equipment for residences, packaged units for commercial and industrial use, and "built-up" or applied systems.

The company unveiled a new 5-horsepower "packaged" heat pump for year-round residential and commercial air conditioning and introduced a new series of assemblies for field engineered heat pump systems for larger buildings. The packaged unit will be offered later in a larger size and eventually in a smaller model.

A heat pump is an air conditioner which uses refrigeration to provide winter heating as well as summer cooling. The heat pump extracts heat from outside (even in freezing weather), raises the temperature by an electrically driven compressor, and transmits the captured heat into the building. In summer it draws heat from the building and releases it outside.

Although heat pumps may use other sources of heat than air, Carrier's new packaged unit, the Heat Pump Weathermaker, is designed to use air. It is comprised of an indoor and an outdoor unit. The former is little larger than a room air conditioner and can be installed in an attic, basement, top of closet, or other out-of-the-way place. No floor space is required. Since the unit requiring outside air is located exterior to the building, the noise incident to drawing quantities of air is greatly reduced.

The heat pump does not simply convert electrical energy to heat. It produces much more heat than the equivalent electrical energy required to operate it, particularly if water is employed as a heat source. Electricity is used merely in drawing from a medium the heat put there by nature. The company pointed out that heat pump use will depend primarily on encouragement by electric utilities in areas where air conditioning demand on them during summer months needs to be balanced by increased power consumption in winter.

Besides initial cost reduction, the company stressed an improvement in the usual operating cost of heat pumps now on the market. It was predicted that 10,000 packaged air-to-air heat pumps would be installed

by the industry during 1957 at a cost of \$30 million, with a three-fold increase by 1961. The company anticipates as many installations in commercial establishments as in residences. Along with these uses, pointed out interesting industrial applications of larger heat pump systems.

Calectric To Build \$10,000,000 Plant Near Barstow

PLANS for construction of a new power-producing plant costing in excess of ten million dollars on the Coolwater Ranch near Barstow were announced recently by Carl C. Ervin, vice president and general manager of California Electric Power Company.

Calectric has purchased 2600 acres of the famed ranch which is located west of Barstow and northeast of Daggett. The property will be the site of a steam electric generating plant to meet the ever-increasing power requirements of the entire area north of the San Bernardino Mountains. Present plans call for construction of the first unit of 60,000-kilowatt capacity to be ready for operation and in service by June, 1958.

A second 60,000-Kw. unit will be constructed a year or two later at an additional cost of several million dollars. Land development for the power generating facilities will require about 80 acres, and a large farm opera-

will be continued on the ranch.

Mr. Ernst said that Calectric is investigating the possibility of developing experimental crop and agricultural practices on the ranch with findings to be made available to the ranchers.

Construction of the electric generating plant at the Coolwater Ranch is part of Calectric's continuing program of developing new power-producing facilities to serve the growth within its service area.

Ten years ago the company's principal sources of power were eight hydroelectric plants on the east slopes of the High Sierra and a generator at Hoover Dam. Today these sources contribute only a fraction of the company's total power output. A four-unit, 140,000-kilowatt steam electric generating plant at Highgrove is in operation and a two-unit, 120,000-kilowatt steam electric generating plant is under construction in Bernardino.

During the past ten years, the company (Continued on page 28)

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INDUSTRIAL PROGRESS—(Continued)

ber of Calectric customers has increased 144 per cent, while the kilowatt hour sales of electricity have risen 196 per cent.

AGE to Build Second 450,000 kw Unit at Sporn Plant

AMERICAN Gas & Electric Company recently announced plans for a \$58,000,000 expansion project at the Philip Sporn electric generating plant at Graham station, West Virginia.

The company said it will install a single unit capable of generating 450,000 kilowatts of electric power, more than can be produced by any other single unit in operation today.

Construction of the new unit at the Graham station site is scheduled to begin early next year. The generator will be in operation by the end of 1959.

The Vern E. Alden Company (Chicago) will collaborate with engineers from AGE on the design of the unit.

The Sporn plant now has a 600,000 kilowatt capacity. It is operated jointly by two wholly owned subsidiaries of American Gas & Electric, the Appalachian Electric Power Company and the Ohio Power Company.

Philip Sporn, AGE president, said the "need for still greater generating facilities in the dynamic Ohio Valley" prompted the company to install its second 450,000 kilowatt unit at Graham station.

The firm currently is installing a sister 450,000 kilowatt generator at a site along the Wabash river in Sullivan County, Indiana.

Mr. Sporn said each of the new generators will have "73 per cent more capacity than any electric power producing unit operating in the world today."

"Silent" Sound Waves New Tool of Production

AMERICAN industry, led by the Air Force, Navy, and Atomic Energy Commission, will buy more ultrasonic equipment in 1957 than in all previous years, it was predicted in mid-November at an ultrasonics symposium held at the Yale Club, New York City.

The market for industrial application of ultrasonics, silent but remarkably powerful sound waves, is expected to undergo a threefold expansion in the next 12 months. "Silent" sound waves will drill odd-shaped holes in diamonds, glass, and other hard materials; sound waves will clean and degrease precision equipment faster than any other method, microscopical-

ly clean and sterilize surgical instruments immersed in cold water, decontaminate radioactive objects, solder aluminum in the absence of flux, sense the liquid level in a tank, and detect hidden flaws in metal.

This progress report by engineers at the symposium on "Ultrasonics—A New Tool For Industry" was coupled with a warning about threats to future progress from Robert L. Rod, president of Acoustica Associates, Inc., leading designer and manufacturer of ultrasonic systems, co-sponsor of the symposium. Mr. Rod said that users and manufacturers of ultrasonic equipment must cooperate to overcome "lack of research among prospective users, and lack of industry-wide quality standards."

Mr. Rod declared that "industry must be made to understand that the first requirement of successful introduction of ultrasonics is technical liaison conducted without the restraints of usage secrecy."

Acoustica revealed that it had stepped up production more than 175% at its plant in Glenwood Landing, Long Island, N. Y. to meet ever-increasing demands for ultrasonics systems from every field such as auto electronic and guided-missile manufacturers to nuclear plants, food processing plants, textile mills and hospitals.

Other speakers at the symposium included Mr. Paul M. Platzman, symposium chairman and Vice President of Acoustica Associates.

He described "the largest most powerful ultrasonic system in the world," a cleaning and degreasing system for the Atomic Energy Commission, produced and installed by Acoustica last September. He said this recognition of ultrasonic techniques by atomic energy authorities and also by university laboratories and large industrial concerns has "catapulted ultrasonics almost overnight from a laboratory curiosity into a multi-million dollar industry today."

The basic principles by which ultrasonics cleans objects and performs other functions was described as a "cold boiling" scrubbing effect. Inaudible sound waves or vibrations pitched too high to be heard by the human ear, above 18,000 cycles per second, are created by ultrasonic transducers, electrically produced by generators. The sound waves irradiate a liquid, setting up "cold boiling," known as cavitation within the liquid. The sound waves bring about repeated formation and collapse of millions

of tiny entrapped vapor bubbles thousands times per second.

The cavitation gives a scission powerful enough to break surface tension of grease or contaminants and thus "blast" clean what objects are immersed in the penetrating the deepest recesses of the object.

In addition to decontaminating radioactive objects, this principle is important in manufacture of precision electronic components and in sterilizing surgical instruments.

Non-destructive testing of another widely-used application of ultrasonics and in preventive maintenance alone has saved industry tremendous amounts of money by covering defects before the point is reached.

Ultrasonics is also doing either alone or as a valuable aid to conventional methods, in the following applications: Cleaning and greasing of metals, ceramics products, testing for flaws, breaking or corrosion in solid measuring thickness of metal from one side, machining of extremely hard materials, soldering of metal without flux, cold-flow of thin metal strips, welding, reduction of ore, precipitation of metal fume particles, pickling and scaling of metals, mixing powdered metals and pigments, mixing of fuels, testing for imperfections in laminations and plated metal improving heat transfer rates.

Third RCA Microwave System For El Paso Natural Gas

THE Radio Corporation of America has contracted to install a 170-mile microwave radio relay link for El Paso Natural Gas Company, which will extend the utility's overall microwave network to approximately 1,000 miles, it was announced recently by Russell C. Dubois, sales manager, RCA Communications Product Department.

The new RCA microwave system, the third for the El Paso Natural Gas Company, will provide communication and telemetering circuits between the utility's branches at Flagstaff, Arizona, and Laramie, Wyoming.

Mr. Dubois said that the new microwave link will utilize standard CW-20A microwave equipment operating at 2000 megacycles, and replace an existing 600-megacycle system.

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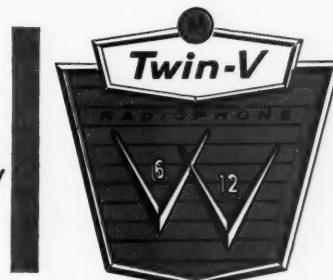
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A

Abrams Aerial Survey Corporation	33
*Allen & Company	
*Allis-Chalmers Manufacturing Company	
American Appraisal Company, The	22
*American Creosoting Corporation	
American Telephone & Telegraph Company	13
Analysts Journal, The	27
*Anderson Electric Corporation	

B

Babcock & Wilcox Company, The	4-5
Black & Veatch, Consulting Engineers	30
*Blyth & Company, Inc.	

C

Carter, Earl L., Consulting Engineer	33
Cleveland Trencher Company, The	25
Coates Field Service	33
Columbia Gas Systems, Inc. The	Inside Front Cover
Commonwealth Associates, Inc.	23
Commonwealth Services, Inc.	23
Consolidated Gas and Service Company	33

D

Day & Zimmermann, Inc., Engineers	30
Delta-Star Electric Division, H. K. Porter, Inc.	19
*Divco Corporation	
Dodge Division of Chrysler Corp.	Inside Back Cover
Drake & Townsend, Inc.	30
*Dresser Industries, Inc.	

E

*Ebasco Services Incorporated	
*Electro-Motive Division, General Motors	

F

*First Boston Corporation, The	
Ford, Bacon & Davis, Inc., Engineers	30

G

Gannett Fleming Corddry and Carpenter, Inc.	33
General Electric Company	Outside Back Cover
Gibbs & Hill, Inc., Consulting Engineers	30
Gilbert Associates, Inc., Engineers	30
Gilman, W. C., & Company, Engineers	31
*Glore, Forgan & Company	

H

Haberly, Francis S., Consulting Engineers	33
*Halsey, Stuart & Company, Inc.	
*Harriman, Ripley & Company	
Hirsch, Gustav, Organization, Inc.	31
Hoosier Engineering Company	31

I

*International Business Machines Corp.	
*International Harvester Company, Inc.	
Irving Trust Company	16

J

Jackson & Moreland, Inc., Engineers	33
Jensen, Bowen & Farrell, Engineers	31

Professional Directory

30-33

*Fortnightly advertisers not in this issue

K

*Kellogg, M. W., Company, The	
Kerite Company, The	
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P

*Pacific Pumps, Inc.	
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R

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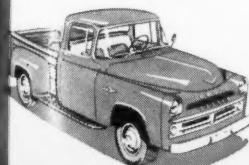
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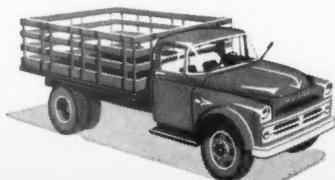
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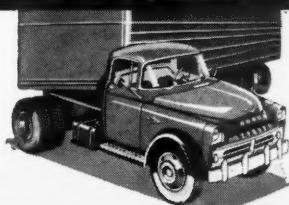
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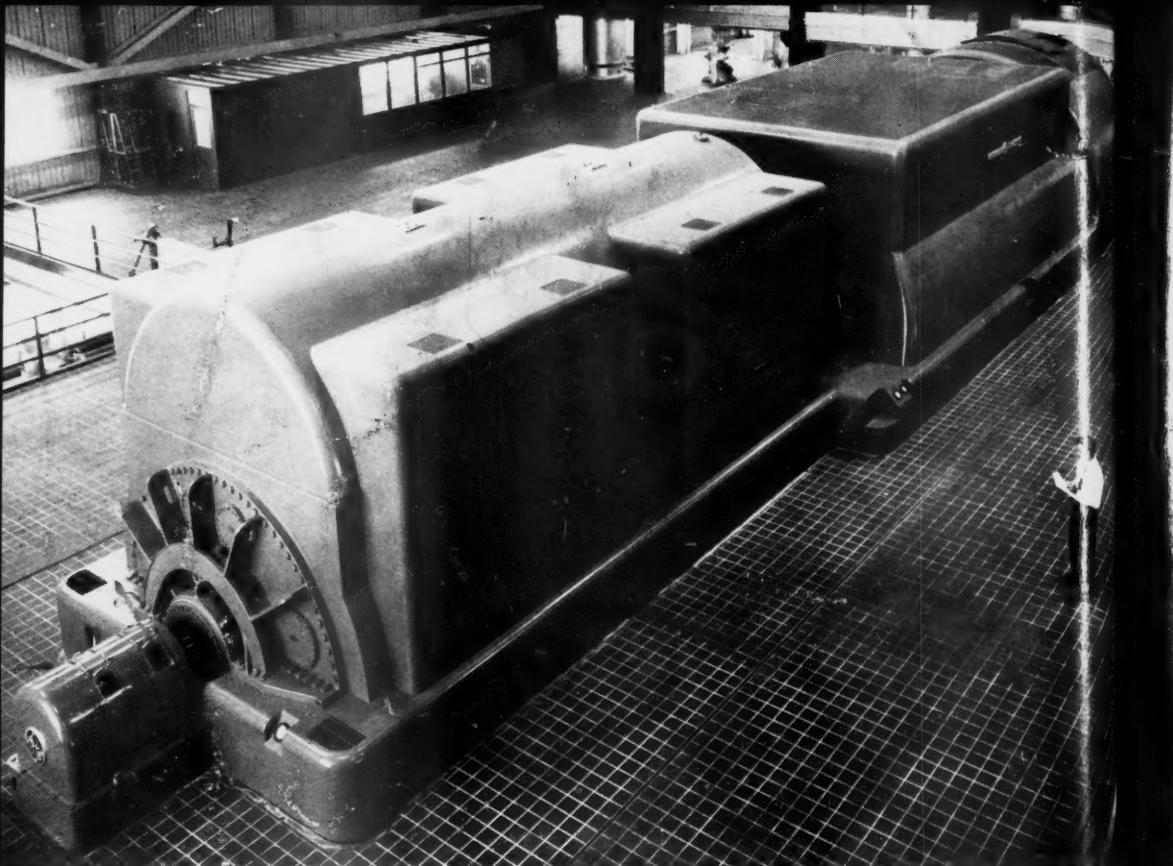
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